REPORT RESUMES

ED 010 930 EC 000 081

SLOW LEARNING CHILDREN IN OHIO SCHOOLS.

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OHIO STATE DEPARTMENT OF EDUCATION, COLUMBUS

PUB DATE 62

EDRS PRICE MF-$0.18 HC-$4.68 117P.

DESCRIPTORS- *EDUCABLE MENTALLY HANDICAPPED, *SPECIAL EDUCATION, *CURRICULUM DEVELOPMENT, *PROGRAM PLANNING, *ACADEMIC ACHIEVEMENT, INSTRUCTIONAL PROGRAMS, STATE PROGRAMS, LEARNING CHARACTERISTICS, LANGUAGE ARTS, ARITHMETIC, SOCIAL STUDIES, VOCATIONAL EDUCATION, SCIENCES, RECREATIONAL ACTIVITIES, INTERMEDIATE GRADES, JUNIOR HIGH SCHOOLS, SENIOR HIGH SCHOOLS, COLUMBUS

IN THIS BULLETIN SLOW LEARNING REFERS TO CHILDREN IN THE 50-75 IQ RANGE. ELIGIBILITY FOR SPECIAL CLASSES IS DISCUSSED, INCLUDING A DESCRIPTION OF THE TESTING PROGRAM AND AN EXPLANATION OF THE IQ CONCEPT. SAMPLES OF FORMS USED IN COMMUNICATION WITH PARENTS AND DISTRICT APPLICATIONS FOR SPECIAL CLASSES ARE INCLUDED. LEARNING CHARACTERISTICS OF SLOW LEARNING CHILDREN ARE BRIEFLY DESCRIBED. THIS BULLETIN, INTENDED FOR TEACHERS AND ADMINISTRATORS, OUTLINES AN INSTRUCTIONAL PROGRAM. AREAS OF INSTRUCTIONS INCLUDE LANGUAGE ARTS, ARITHMETIC, SOCIAL STUDIES, OCCUPATIONAL TRAINING, SCIENCE, AND RECREATIONAL ACTIVITIES. APPROPRIATE AMOUNTS OF TIME ARE SUGGESTED. EFFECTIVE TEACHING TECHNIQUES, RECOMMENDED EXPERIENCE ACTIVITIES WITHIN THE VARIOUS LEARNING AREAS, AND MEANINGFUL CONCEPTS THAT SHOULD BE DEVELOPED ARE AMONG THE SPECIFIC SUGGESTIONS MADE. A BIBLIOGRAPHY LISTS SEVERAL BULLETINS AND CURRICULUM GUIDES APPROPRIATE FOR TEACHERS AND ADMINISTRATORS AS WELL AS SEVERAL BASIC TEXTS AND RELEVANT PERIODICALS. APPENDIXES OUTLINE ELIGIBILITY REQUIREMENTS FOR SPECIAL CLASS PLACEMENT AND REQUIREMENTS FOR CERTIFICATION OF TEACHERS OF SLOW LEARNING CHILDREN. (VO)

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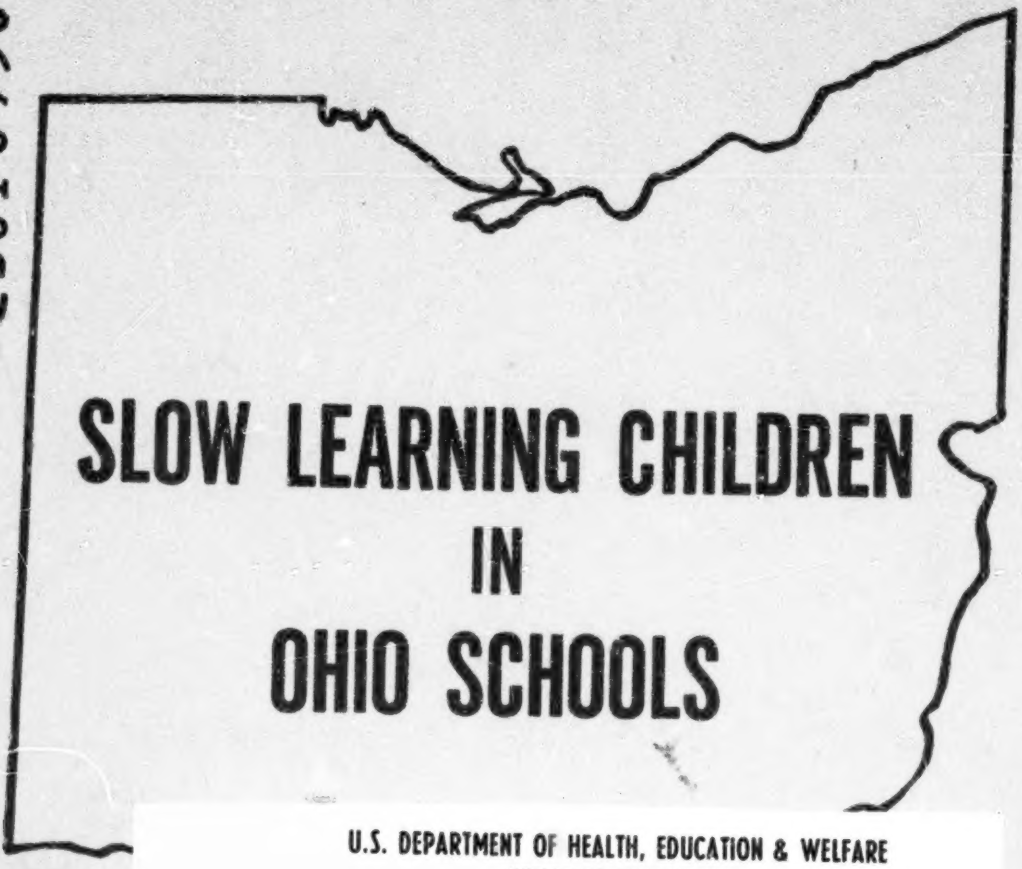

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Issued by: E. E. HOLT
Superintendent of Instruction
State Department of Education
Columbus, Ohio

1962

SLOW LEARNING CHILDREN
IN
OHIO SCHOOLS

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Ohio Department of Education
Columbus, Ohio
1962

Columbus Blank Book Company
Columbus, Ohio 43207
1966
Bound by the State of Ohio

FOREWORD

This is the third such publication to be issued since the origin of Ohio's program for slow-learning children in 1945. In this bulletin revisions and additions have been made which, it is hoped, will serve a three-fold purpose:

1. Clarify some points that were obscure in previous bulletins.
2. Indicate emerging practices in program development throughout Ohio.
3. Present current information relative to State Board of Education Standards and Division of Special Education policies in the area of education for slow learners.

The authors have appropriately asked that this publication be dedicated to the memory of P. O. Wagner, under whose supervision the Ohio program for slow learning children was begun. Division policy still follows the philosophy so well expressed by him in the original bulletin:

"1. Every educable child is entitled to a chance in school.
2. Within reasonable limits the school program needs to be adjusted to the ability of the child.
3. In planning a program of education, exceptional children in any given community are entitled to be housed in the same building as other children of approximately their age group.
4. Measurement of abilities needs to be a part of the school's procedure. Test results are an important factor in determining placement.
5. Long term observation by teachers is essential in considering the problems and needs of a child, but teacher observation needs to be checked by periodic appraisals through group and individual physical and psychological examinations.
6. So-called "emotional blocks" are frequently encountered when children are asked to function at a level above that of their maturity. The most fertile area for teaching and learning is at or just below the child's mental maturity level.

In planning education for slow-learning children we look back to the level of the child's ability; we look out to the level of his social interest; and we look forward to the possibilities he holds for normal living in the adult community."

R. A. HORN, Director
Division of Special Education

ACKNOWLEDGMENTS

Material of the kind presented in this bulletin is never entirely original; it is woven out of the ideas, suggestions and philosophies of many people. The writers recognize their indebtedness to all of these people ,and especially to:

1. Mr. R. A. Horn, Director, Division of Special Education, under whose guidance this revision was developed.
2. Staff members of the Division, for their suggestions and encouragement, and Mrs. Helena Brown, secretary, for her competent assistance in the completion of the manuscript.
3. Teachers of slow-learning children in public school classes throughout Ohio, whose work with their children has provided many of the incidents and approaches to problems mentioned here.
4. Slow-learning children, themselves, who, through their activities in special classes in Ohio schools, are demonstrating that they **can** and **do** learn when the school program is appropriate to their abilities and needs.

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Part 1: BACKGROUND INFORMATION

Chapter I: HOW BIG IS THE PROBLEM OF SLOW LEARNING CHILDREN?

While the estimated number of children needing slow-learning programs has been traditionally considered to be 2%-3% of the total school population, it is important to keep the following in mind:

1. The above percentages were based on a cutting score of 70 I.Q. With increased recognition that many young people in the 70-80 I.Q. range are as handicapped, academically and occupationally, as the more retarded in the 50-70 I.Q. group, cutting scores have been raised in many states, including Ohio. This means that a higher percentage of children may need to have special education programs of this kind. Surveys of local school districts in Ohio over the past fifteen years have shown great variance in the incidence of slow-learners, ranging as high as 6% of the total school population.
2. Other factors influence the distribution of slow children in school districts. With few exceptions, slow-learning adults have fewer work skills to offer industry and agriculture. Consequently, their earnings are low and tend to confine them to the less desirable living areas in both city and country. It is not surprising, then, that a high proportion of slow-learning children are likely to be found in the industrial cities and depleted rural areas. However, since slow learners are found in all communities and at all socio-economic levels, this means that teachers and administrators in more fortunate communities also have responsibility for recognizing and providing for these children. The need in these areas may be critical for the few children concerned, because:
    a) Family and community aspirations for education are high. Academic success carries a pronounced social significance. Both home and school have many adjustments to make in accepting and providing realistically for the slow-learner.
    b) There tends to be a wider gap between the slow-learner and his peer group, both in ability and achievement. Both the slow child and his faster companions become aware of his **"differentness"** at an early age. This aware-

ness can cause personality disturbances that complicate the original problem of slow development.

c) Family background and income level help make extensive and expensive medical care feasible. Thus more children with multiple handicaps and medically-related problems are likely to live to school age in these districts.

For the teacher in such an area, these facts have specific implications for curriculum development[*]. For the administrator, they place definite responsibility for work with parents and the total community in interpretation of needs and development of program. In program organization, a district which has very few eligible children is encouraged to plan cooperatively with neighboring districts (as provided for under Section 8.711 of the State Board of Education Standards), or may choose to establish a fractional unit (as permitted by Section 8.11).

Chapter II: WHO IS ELIGIBLE FOR SPECIAL CLASS?

Under Ohio law the special class program for slow learners is for children of school age who fall generally in the 50 to 75 I.Q. range, the group which is frequently referred to in literature and in laws of some neighboring states as the "educable mentally retarded." Provision is made for the severely mentally retarded (bedow 50 I.Q.), sometimes referred to as the "trainable" group, under the State Department of Mental Hygiene. Children in the slow average group (I.Q. 75-90) are given no special attention through legal provision at the present time; local school administrators and classroom teachers will recognize, however, that these children, too, need some special attention in the way of modified school requirements.

Since school attendance is mandated by the compulsory school attendance law, special education programs, like regular programs for children of average ability, need to be planned for children from six through eighteen years of age.[1] This means that special education needs to be planned for young children even though they may not yet have the maturity to enter and follow a formal academic school program; for slow learning children it is particularly important that they should **not** spend three or four years in a pressure-type situation before their educational program begins.

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[*] More detailed information will be found on pp. 43-460.

[1] For physical or mental health reasons the law provides that exceptions to the compulsory school attendance law may be made.

This does not differ essentially from what is needed for many children left in the regular classes. Roughly twelve to eighteen of every one hundred "regular" children entering first grade need to have academic work delayed a year or two; with special class children the need is for a delay of three or more years.

Chapter III. WHY THIS BULLETIN?

The program for slow-learning children in Ohio's public schools has been growing rapidly in the past few years. There are more than four times as many classes for these children today as were in existence in 1945. Children needing special programs are identified earlier and given service for a longer period of time.

Because of new knowledge gained from working with more children over a broader span of years, much of the thinking about these boys and girls in educational circles has changed in the past quarter century, with resulting changes in educational practices with slow-learning pupils. A few of these changes may be illustrated as follows:

In the early 1920's Tom, I.Q. 70, was in an "opportunity" class. His time was spent almost entirely on handwork; he did woodwork, weaving, plaster casting, metal work—but he was unable to follow even simple written directions for such work. In those days public schools had had little experience in planning programs for boys like Tom. It was assumed by many people that a child with an I.Q. of 70 would never learn to read. Today Tom is both amazed and delighted to discover that his two sons, now in special class, **are reading** and are making some progress in arithmetic and spelling. Any child who can qualify for placement in a public school class for slow learners in Ohio will have enough ability to learn to read, **providing** he is not "pushed" to do so three or four years before he has sufficient maturity to profit from "exposure" to reading experiences.

Peter went to special class about 1930. He attended school in a "center," a building in the business section of the city, centrally located so all "specials" could be transported easily. At that time it was felt that these children needed so "special" a school program that they must be totally separated from "regular" school contacts. While the program there was planned to meet his school needs, Peter resented the apartness that made him conspicuous among the neighborhood boys. It took considerable persuasion last spring to help Peter accept special class placement for his young daughter—and that consent came only after he had visited the class in their own neighborhood elementary school and had seen the extent to which the "specials" were accepted as part of the regular group. Since slow learners must live as adults in the community with the rest of us, efforts are now being made to find ways to help them adjust within the larger group while they are still children.

Several years ago Dr. and Mrs. W. were quite concerned about Paul. They knew he was "different" from their other two children and from most of the children the doctor encountered in his work. They sent Paul to a private school for retarded children for awhile, but this was expensive. (Besides, there was college to consider for Jack and Betty in a few years; not all the money could be rightfully spent on Paul.) With some misgivings they enrolled Paul in a class for slow learners. It was then that they learned that these classes are no longer found exclusively in elementary schools; their city was making its initial attempt to establish work for these pupils at secondary level. Paul was one of the children moved to junior high school. This year, in special ninth grade, Paul played on the football team, is active in the glee club, and popular with the rest of his ninth grade classmates. He is looking forward to graduation this spring and to entering special class in senior high school in the fall. Not all slow pupils are as fortunate as Paul, but more and more the plans being formulated for these children take into consideration provision for twelve years of **purposeful** school experience—or the equivalent of the twelve years available to non-handicapped students.

Such changes as these mean:

1. There are many new teachers in the field of special education for slow learners—teachers who have been teaching something else and may still be in the process of securing adequate background for their new responsibilities.

2. Since the whole program is in a period of transition, "all the answers" cannot be found by looking at the existing program and existing materials.

Chapter IV: FOR WHOM IS THIS BULLETIN WRITTEN?

This booklet is written for classroom teachers and administrators working with slow learners in the schools of Ohio. It is with some trepidation that anyone approaches the preparation of a bulletin of this kind. The danger of "concocting a pill," inventing a new panacea for meeting the problems of these children is recognized. The contents of this bulletin are not to be considered a pattern, but rather the presentation of a philosophy and some of the current approaches to the education of slow-learning children.

We would like the teacher who uses the bulletin to go beyond the use of this as a guide—to adapt, locally, a modification of these ideas. We hope that the material presented may stimulate the teacher to find new and better ways of meeting the problems of her children. We further hope that the suggestions offered may give guidelines to the administrator for local class organization as well as strengthen his belief in and support of a complete program for slow-learners in elementary and high school

Part II: PROGRAM PLANNING

Chapter V: HOW DO YOU FEEL ABOUT THE PROGRAM?

How do you feel "deep down" about slow-learning pupils as people and about yourself as their teacher? This will help to determine your effectiveness as a teacher. You may sense how some of these children feel about school and teachers when they come into your class for the first time. Many of these pupils come to you with a feeling of hostility. This is particularly true if the school chances to be one where they are not selected for special help until they reach the "problem age" of twelve years or over, by which time their reaction to frustration and failure is clearly evidenced by behavior. Even though they may not say so, many of them are "against" school and "against" teachers.

In a similar way, pupils sense how the teacher looks at them—whether the teacher and the school are "for" or "against" them. Measles are catching. So are feelings. Although you may never express in words the way you feel about these handicapped children, your mannerisms in the classroom will speak for you, and much of the success of your work will depend upon your attitudes. How important are these children to you? Are they as interesting and challenging to work with as any other group? Do you honestly believe they have possibilities, that they are "worth" the time and effort you will spend on them, that an adequate school program for them is sufficiently important to warrant the extra expenditure of money which such special education entails? How do you **really** feel about slow learners?

In general, there are two viewpoints about these children. Some people think largely in negatives. They say slow-learning children are likely to be delinquent, likely to present sex problems, that they lack competitive spirit, cannot take responsibility, are not "teachable." They imply that these people cannot, either as children or adults, participate in community living. Their feeling is that the major contribution of a special class is to relieve teachers of regular classes of an extra burden, to "protect" the children in those regular classes, and to keep the slow learners "happy and occupied" (not necessarily in a constructive sort of program). For those people, a school program which totally segregates the slow learner from other groups of children is "the right way"; and they justify such segregation for these children on the basis of sheltering them from ridicule by more fortunate children.

Then there are those of us who think in more positive terms. We say, "A handicapped child is one who may be like other children in all respects save one," the "one" in this instance being pronouncedly slower mental development, with consequent later readiness for a given level of school performance and an eventual lower ceiling for academic achievement. To the people who assume that these pupils are delinquent or sex problems, we point out that there is no proof for this assumption. (Originally studies of mentally deficient children showed a higher incidence of delinquency, etc.—but those studies were made in institutional settings. It seems only reasonable to note that many children committed to institutions are sent because they have presented problems in their community which could only be cared for by removal from the community, that therefore institutional groups are not likely to be representative of all such children.) To the people who claim these children lack competitive spirit, we proudly mention those slow-learning pupils in our junior and senior high schools who are participating in athletics (track, swimming, football, basketball, baseball) and extra-curricular activities (glee clubs, bands, dramatics, student councils) on the same basis as non-handicapped students. To those who say slow learners cannot take responsibility or become contributing members of society, we refer to the dozens of our former special class pupils who **are** working and living in their communities, supporting families and participating in community activities. (We who were their teachers know them to be handicapped; a measure of our success in working with them is the degree to which their friends and neighbors fail to recognize them as "different.") With emphasis on the likenesses rather than on the differences of these children, we are anxious to minimize segregation in the school situation, to give them the protection of special class while permitting as much participation in school activities with other boys and girls as they are able to undertake without undue pressure or strain.

How do you feel about yourself in this work? There was a time when the special teacher was "low man on the totem pole" among her professional colleagues. Over the past fifteen years, special teachers in Ohio have acquired status at the top of the teaching profession. When you join the more than one thousand teachers in these classes today, you will find yourself among a group of the most resourceful teachers and most interesting personalities in the teaching profession. Still, your own picture of yourself in a special education setting will tend to influence the degree to which you will find happiness and satisfaction in your new work.

If you are teaching in a large city, the chances are that you will find many opportunities for sharing experiences with teachers who are also working with slow learners; but if you are in a small city, an exempted village or county school, you may be the only person within a radius of forty miles who is teaching handicapped children. Are you "just" a teacher of "the kids nobody else wants," a little "peculiar" because you are willing to take these "tag-enders" to work with for a time? Or are you the person who is very "special" because yours is a job many fine teachers could not handle even if they chose, a job requiring an interest in people, a sense of adventure, and a willingness to develop ingenuity in handling a variety of teaching techniques, a touch of artistry in molding personalities, a job offering limitless opportunities for both personal and professional development? . . . You may not be quite sure, at the beginning. You will find in the course of your first year that yours is a difficult assignment; there will be many times when you are discouraged—particularly if you are the only special class teacher in your area—discouraged to the point that you would almost literally like to jump off the nearest available bridge. People, many times your co-workers, will neither understand nor appreciate some of the things you are trying to do for these pupils. Some of your most carefully laid plans will disintegrate with the suddenness of a charge of dynamite; and there may be no one at the moment to whom you can go for help in "picking up the pieces." Special education is a professional field requiring the patience of Job, the understanding of a psychologist, the dedication of a missionary, the deft hand of the sculptor, the skill of an expert surgeon—but you, the teacher, are only human; at best you are bound to make mistakes, as we all do. By mid-term you may be wallowing in confusion; by mid-year you may consider yourself a little "in the fog" but the general confusion will be starting to clear. By June, if you are really made of the material from which special teachers should be chosen, you will be willing to try it again. Through mistakes, through living and learning with these children, through "give and take" with other teachers working with slow-learners, through continued preparation, the special teacher grows in understanding of her children, in her vision for them, and in the development of more effective teaching techniques.

How important is this program of special education to you? Is it "just another class"? Do you view it as a sort of remedial program in which these children can be "spoon fed" and "pushed up" to the achievement level of their age groups? If this is your philosophy, may we respectfully suggest that you are "on the wrong track"; this has been tried by many people in many places—and has never worked yet! Growth cannot be hastened. These children are not growing nearly as fast as other children their age; therefore, they cannot assimilate educational materials intended for "normal" children.

Do you feel that special education is a temporary sort of thing, which is currently flourishing until the appearance of another fad in education? Is it a means of providing training for children who would otherwise become "the lost generation" in our schools, since their handicap makes it impossible for them to profit from the regular program of instruction? The way you feel about the program will be reflected in the kinds of things you do with your children, the way you relate your work to that of other teachers in your building, the place—and degree of "respectability"—your class holds in the total school picture.

Chapter VI: WHAT YOU SHOULD KNOW

How much do you know about children? How aware are you of the fact that school programs can move **effectively** no faster than the maturation rates of the children with whom the schools are working? Do you agree with Mrs. Frances Mayfarth[1] that a common error in education is to teach children "too much, too fast, too soon"? Do you see any relationship between the age at which our Ohio children enter first grade and are introduced to formal reading programs and the chronic complaint from our secondary schools that too many of their students lack basic academic skills? Do you feel the accusation that our schools are manufacturing many of their so-called remedial problems is a fair one? Does a child's ability to catch a ball, to ride a bicycle, to relate the theme of a movie he saw last Saturday or a radio program he heard last night, to distinguish a neon sign in the next block or to do an errand at the grocery store tell you anything about his "readiness" for a school program? Slow-learning children are first of all, children; they grow much the same as other children, except at a decidedly slower rate[2]; the more you can observe about all children, the better prepared you will be to work with handicapped children.

How much do you know about slow-learning children? Be it much or little, by the end of the year you will know considerably more, for teaching these children is in itself a learning experience.

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[1] Former editor, CHILDHOOD EDUCATION.

[2] This statement may not be very literal with respect to those slow-learning children whose handicap is traceable to brain damage, since in their case the retardation is due to actual impairment of brain cells.

However, your work in the year ahead will be considerably easier if you can recognize certain "minimum essentials" before you begin:

(1) Slow-learning children are noticeably slower in total development than other children their age. While this slower development is most apparent in an academic situation (since academic work tends to be abstract and they have difficulty in grasping abstractions), it can also be noticed in other situations. In young retarded children, coordination is quite likely to be poor; an eight-year-old slow learner may have as much difficulty in catching a ball as many kindergarten children. For the slow learner of six or seven, stair climbing may present difficulties. Creative and imaginative play activities seem difficult for them until they have had considerable guidance in these areas. They are less observant than other children of their age—and as a result have to be specifically shown many things which, it is generally assumed, the other children "pick up" without teaching. This is particularly true of social behavior, and in this area the slow child can be helped to acquire patterns which conform to acceptable standards for his age group.

(2) Slow-learning children are **never** ready for an academic school program as soon as other children. The best of this group must be past eight years old, chronologically, before they are ready for reading instruction; the poorest may be nearly twelve years old before they can profit from such work. This says three things to the teacher of slow-learners.

(a) If you have been accustomed to expecting children to make school progress at the rate of a grade per year, you will need to lower your achievement expectancy for these children **considerably.** Otherwise both the children and you will be extremely unhappy!

(b) If yours is a primary group (children ten years of age and under) most of them should **not** be doing formal "reading, 'riting and 'rithmetic." Instead, you will need to be teaching a sequential development of language and number **concepts**, visual and auditory discrimination, motor and manipulative skills and a rich background of experiences from which ideas and values can grow. This kind of program should help children build readiness to function successfully in a more formal academic program in the intermediate special class.

(c) Since they begin reading later, and since their rate of development is ½ to ¾ as fast as the "average," their potential "academic ceiling" will be substantially lower than for most pupils in school.[3]

What do you know about the testing program and its uses? Most schools today have a testing program, whereby children in two or three selected grades are checked on group intelligence tests each year. In some schools Grades 2, 5, and 7 are routinely tested; other schools prefer to test Grades 3 and 6, or Grades 1, 3 and 5. Some of the smaller schools plan on a total school survey every three years (in a 6-grade school) or every four years (in an 8-grade school). A number of different group tests are used in Ohio for this purpose, but the trend is in the direction of selecting those tests which do not rely too heavily upon acquired reading skill for their judgments of children. Such tests yield information as to the possible number of slow-learning children in the school (or school district) who need special school services; they also keep the information up to date.

On the basis of considerable experience, research and study by the Division of Special Education, selected state universities, and representative field people, the following recommendations are now established Division policy as procedures for identifying those children who are eligible for placement in slow-learning classes:

1. Children enrolled in special classes for slow-learning are those in the general intelligence range of 50 through the middle 70's. This determination must be made before a child is considered for placement in any approved unit in Ohio.
2. In all districts employing a school psychologist, and other districts where psychological services are available, this determination is to be made on the basis of an individual examination by a qualified psychologist.
3. Some school districts in the past have contracted with clinics from state universities and private clinics for individual psychological testing. In such instances, if the tests are given by professionally qualified members of the psychological staff or clinic, the results will be considered accept-

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[3] See table, p. 48.

able for placement. Examinations done by students who are not yet certified as school pyschologists, or students in clinical psychology are not acceptable.

4. There are a few areas in Ohio where local psychological services are not yet available. In these, provisional admission to a class may be made on the basis of two or more group tests showing close agreement. The following procedure for screening is suggested:

   a. One group mental ability test (Example: Otis Quick Scoring Mental Ability Tests) should be administered to all of the children in the grade or grades under consideration if at all possible. Where enrollments are too large to make this feasible, children should be selected to take this first group test if they fall into one of the following four groups: (While there will be some overlapping this should make it possible to find the majority of children needing service.)

      1) They have scored 80 or lower on previous group intelligence tests.

      2) They are over-age for the grade in which they are placed.

      3) They are doing failing work in their present grade situation, irrespective of previous test scores.

      4) Any other child about whom the teacher has serious questions. (The teacher should be encouraged to select children who present instructional instead of behavior problems.)

   b. All children in the group to whom the first test was administered who check 80 and below, should be given a more comprehensive second group intelligence test. (Example: S.R A. Primary Mental Abilities, Kuhlman-Finch Intelligence Tests, California Test of Mental Maturity.)

   c. Children who score 79 or below on both of these group tests may be considered eligible for **provisional** admission to a special class for slow-learning, providing they meet other requirements of the group. Such children must be given an individual test within two years of placement in a special class.

d. There may be some children who score below 79 on one group test and above on the other. Most of these are children with academic retardation and should not be placed in a class for slow learning. Occasionally such a child may be a slow learner. Should a child who scores below on one and above on the other be considered for placement in slow-learning, he **must** be seen individually and have this determination made on more than a group screening. This kind of child is not eligible for placement in a slow learning class on the basis of a group test.

Even if you have no responsibility for the administration of psychological tests in your school, you can use the results to help you in organizing your school program later so that it will fit the needs of your children. If you find a test result recorded on a permanent record card, you may ask yourself:

1. Is the **name** of the test given? If it is an individual test the chances are that it comes closer to giving you a true estimate of the pupil's ability. If it is a group test, is it one which derived its score through the use of reading skill—as is true of those group tests constructed in the early days of the testing movement—or is it a test which has both verbal and non-verbal scores? The latter are preferable, since frequently a child who is not performing according to expectancy, if the teacher views his total score, may be performing in accordance with his ability to handle a language situation. To the administrator, the total score is important; he is concerned with knowing whether a child is eligible for placement as a slow learner or whether he must seek other ways to approach this child's learning problems.

2. **When** was the test given? Unless it was given this year, the mental age will need revising to bring it up to date. Children keep growing mentally, just as they continue to grow physically; the mental age which a child had three or four years ago will not suffice in planning a current school program. Classroom teachers will need to bring mental ages up to date for the beginning and ending of the school year as a routine procedure for anticipating individual and group growth patterns within the school year. Of the several formulae for bringing the mental age up to date, probably the following is easiest for you, as a classroom teacher, to use: Chronological Age multiplied by I.Q. equals Mental Age.

Example: John was tested with a Binet examination when he was eleven and one-half years old and found to have a mental age of eight years, I.Q. 70. By September, 1961, he was thirteen years, seven months old. This meant that his current mental ability, as of the beginning of the school year 1961-62 was derived through the use of this formula:

Step 1: Change C.A. to months—13 yrs. 7 mos. = 163 mos.

Step 2: Multiply by I.Q. and round off to the nearest month. (If decimal is 5 or less, drop it; more than 5, add 1).

$$\begin{array}{r} 163 \text{ mos.} \\ \underline{\text{x}.70} \\ 114.10 = 114 \text{ mos.} \end{array}$$

Step 3: Divide by 12:

A — **Quotient** = M.A. in years

B — **Remainder** = M.A. in months

$$\begin{array}{r} A = 9 \text{ yrs.} \\ 12 \,\overline{)\,114 \text{ mos.}} \\ \underline{108} \\ B = 6 \text{ mos.} \end{array}$$

John's current M.A. is, therefore, 9 years, 6 months.

By the end of the school year John will be ten months older, chronologically, but he will have grown less than ten months in his ability to do school work. We can figure mental development by using the formula again:

Step 1: Change C.A. to months—14 yrs. 5 mos. = 173 mos.

Step 2: Multiply by I.Q.; round off.

$$\begin{array}{r} 173 \text{ mos.} \\ \underline{\text{x}.70} \\ 121.10 = 121 \text{ mos.} \end{array}$$

Step 3: Divide by 12:

$$\begin{array}{r} 10 \text{ yrs.} \\ 12 \,\overline{)\,121} \\ \underline{12} \\ 1 \text{ mo.} \end{array}$$

John's mental age in June can be anticipated as 10 years and 1 month. In ten months John has grown seven months in M.A.

What does test information tell classroom teachers?

1. The **M.A.** estimates the approximate level of academic work which a given pupil may reasonably be expected to assimilate at a certain time, other things being equal. With John, for instance, at age 13 he would ordinarily be in the 8th grade and his teacher might expect him to perform like other 13-year-old, 8th-grade pupils. However, since she knows John's current mental age (9 years, 6 months) and his probable mental development through the year (which

will bring him to just over 10 years), his teacher can understand that he will be considerably behind 8th grade pupils in performance in academic skill areas. She will begin to think about helping John reach reading and arithmetic skill proficiency at the levels generally expected of children in the first half of fourth grade. She understands that this will be realistic academic expectancy for him.

2. The **I.Q.** is both the "speedometer" and "barometer" of development. It indicates approximately how fast the child is "traveling" along the road to adult maturity; the child with an I.Q. of 70 is traveling at the rate of 70% of his chronological age, up to sixteen. The I.Q. also predicts what top ability is likely to be for this child at maturity. At sixteen, or by adulthood, the person with an I.Q. 70 can be expected to reach a skill functioning level equivalent to that expected of sixth grade children.[4] It needs to be pointed out that adolescent and adult slow learners **can**, because of life experiences, and **must**, to meet community living requirements, be helped to go far beyond sixth grade children in general knowledge. This is especially true of information and ideas related to job orientation, citizenship responsibilities and those things necessary for successful family adjustment.

In general, if the original appraisal has been a careful one, it is anticipated that children once determined eligible for a slow-learning class are likely to continue to need a special education program. However, since illness, accident or environmental factors may operate to change this picture from time to time, it is important to take another look at the I.Q. at reasonable intervals, so as to make sure the picture of the child which the school has is a reasonably accurate one.[5]

Other factors in addition to intelligence level are of importance in selecting children for your slow-learning class; among these are chronological age, physical maturity and general physical condition,[6] social maturity and emotional stability, previous school experience.[7]

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[4] The fact that research indicates that most slow-learners are not reaching this attainment indicates that some serious thinking needs to be given to the timing of skill teaching and methods used with slow learners.

[5] For this reason State Board Standards (8.25) provide for periodic re-evaluations.

[6] It would be desirable for every child to have a complete physical examination prior to placement in a slow-learning class. Since the incidence of illness and physical disability is generally higher among slow-learning children than among the total school population, it is important for the teacher to know how she must adjust her program in terms of physical difficulties which may exist among her group.

[7] These same factors operate in the age groupings within a group of special classes in a city or county district.

How is the eligible child assigned to your class? Once it has been decided that a certain child belongs in the slow-learning class, someone should contact his parents. Frequently schools send written notices, but to insure full parental cooperation, most school systems arrange a personal interview with the parents. In large school districts this responsibility is generally assigned to a specific person or group—the visiting teacher, school psychologist or director of special education being most frequently mentioned. In smaller districts, the elementary supervisor (if there is one), the principal of the school which the child is attending, or the principal of the school which houses the special class may make the home contacts. It works out best when one individual in the district is the person who makes decisions on placement and follows through on parent contacts. Having one person in charge also insures consistent policy in assigning children.

In many school districts, parent conferences are strengthened by signed applications for admission to the special class, so that there need be no question in the future as to whether Jimmy's parents were aware that he had been withdrawn from the regular grade program and placed for special educational services. Some districts take time to acquaint parents even more directly with the program by giving them an opportunity to visit the school where their son or daughter may be assigned. A suggested letter for this purpose is reproduced on the next page:

________________ Public Schools

__________, Ohio

December 6, 1961

Dear *Mr. and Mrs. Doe:*

Last *Thursday, Mr. Brown* talked with you about your *son, Frank.* At that time you were told that *Frank* is finding the work in Grade *3* too hard for him.

Our schools have special classes for pupils who find school work too hard. Teachers of special classes are trained to work with these boys and girls. The classes are smaller, so teachers have more time to work with their pupils.

We feel sure that *Frank* would be happy in one of the special classes where he would be able to do the work.

We would like you to visit at *Grove* School. We are sure you would enjoy talking to *Miss March* and her pupils. Please call *Mr. Dunn,* principal at *Grove* School at *WA 2-0802.* He will be happy to have you visit.

Very truly yours,

John Henry
Superintendent

After the program has been explained and the parent has been given an opportunity to visit, the application blank is either given to him by the principal when he visits or mailed to him at home. (Sometimes a follow-up visit becomes necessary if the blanks are mailed). This application is brief,[8] as:

---------------- Public Schools

----------, Ohio

January 9, 1962

I know that my *son, Frank,* is finding school work too hard in *his* present school. I would like *him* to be placed in the special class at *Grove* School.

Signed: *Mrs. John Doe*
(Parent or Guardian)

In addition to making sure that parents know of and consent to their child's placement, there is a need for some one person to process applications from the sending teachers or sending schools, so that placements are made which are in relation to children already in the class. Needless to say, the special class teacher herself **never** returns a child to regular class—or accepts a child directly from the regular class—but works through central office personnel.

In large school districts slow-learning children who may also be physically handicapped may sometimes be provided for in classes specifically organized for children with both handicaps.[9] In smaller districts or when facilities for the multi-handicapped are already crowded, a slow-learner with an additional problem

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[8] In large school districts the last phrase (at ---------------- School) may need to be omitted, since there may be more than one class to which this child might be assigned.

[9] Section 7.0 of the Standards provides for these children. In 1961-62 there were 12 units for slow-learning crippled and 2 for slow-learning blind approved under these regulations.

(vision, hearing or moderately crippling condition) may be enrolled in a "regular" slow-learning class.[10] If a class has twelve slow-learning children enrolled and a multi-handicapped child is presented for admission, the class can easily absorb one such child; but if the enrollment is already fifteen and there are already two multi-handicapped children in the group, the load would become unreasonably heavy for the teacher. It should be kept in mind that slow-learning classes are primarily for slow-learners who are otherwise normal; overloading the slow-learning class with a disproportionate number of multi-handicapped children will make it impossible for the teacher to carry on a satisfactory program. Certain children with multiple handicaps may, with the approval of the Director of Special Education, be counted as the equivalent of two children on the class enrollment list, since such children require considerably more than the average amount of the teacher's time.

In school districts which operate cooperative programs (two or more small cities and/or villages, or districts within one or more counties) frequently more information is needed about children who are enrolled from districts other than the one operating the class. In order that the person responsible for administering the program in the receiving district may more easily decide some of the questions with respect to proper placement of a particular child, it is well to have admission blanks presented by the sending school, as well as from the parents. The reports from the educators may be more specific and more inclusive, as, for example, the following admission blank worked out for a county class program:

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[10] This is provided for under Section 8.43 of the Standards. Children with severe neurological involvement may be considered multi-handicapped, also, if medical records are available for substantiation.

---------------- COUNTY SCHOOLS

----------, OHIO

Inter-District Application for Slow-Learning Class

Child's Name ---------------------- Parent --------------------

Address --

Home School District ------------------------------

Date of Birth? -------------- Verification? -----------------

Present school grade placement ------------------------

Present Educational Level ------------------------

Teacher estimate ------------------------

Test data ------------------------

Can child "fit" with group of children about his age? ------------

Psychological Evaluation:

Test ------------------ Date Administered ----------------

Examiner ------------------ Findings: C. A. ----------------

M.A. ---------------------- I.Q. ------------------------

Physical Condition:

General Health

Can child walk? ------------------------------

Can he use hands? ------------------------------

Can he care for personal needs without aid? ------------------

Does he have "understandable" speech for purposes of classroom experiences? ------------------------

Is vision adequate for purposes of classroom experiences? ----------

Is there any medical record indicating physical or neurological impairment which might require special attention in planning child's educational program? ---------------- If so, please attach report.

Does there need to be any restriction on physical activity? ----------

If so, please indicate doctor's recommendations ----------------

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Has this child ever been in Juvenile Court or is he a serious behavior problem? ------------------------

Have parents agreed to special class placement? ----------------

(Please attach parents' application to this blank.)

. . . .

Will sending Board of Education sign tuition contract and pay special tuition? ------------------------

Will parents or sending Board of Education provide or contribute to costs of transportation to special class? ----------------------

Information supplied by --------------------------

What do you know about your classroom? Is it as large as the other classrooms in the building? Does it have sufficient storage and work space? Is furniture appropriate for age and size of children? Is there sufficient light for the children and you to work without strain, even on dark days? What possibilities does it offer for attractive "living quarters"? You will spend many hours there in the next few months; for that reason your classroom should be as attractive as your living room at home.

The following suggestions should help make your classroom "home" livable.[11]

1. The classroom should be clean, safe, pleasant, attractive, stimulating, and properly organized to suit the needs of the children and the type of instruction given. Children should be acquainted with the proper places for supplies and equipment, so that a certain routine may be established.

2. The room should reflect the work in progress. Pictures, charts, bulletin board displays, table exhibits, etc. are especially necessary in slow learners' classrooms to further understanding and make learning real.

   a) Because the slow learner is easily distracted and confused, clutter must be avoided. All displays should relate to that part of the core unit that is being currently pursued and should be removed before a new topic is begun. Every means should be employed to help the child concentrate on the work immediately at hand. Arithmetic charts, safety posters, etc. should be displayed only during the time they are actually being used and should be removed or covered up when not in use. Only materials illustrative of the current topic should remain on display in the room. Science and other exhibits become meaningless if they are displayed long after the project is completed and interest has waned. Art projects in various stages of completion scattered about the room also add to the clutter.

   b) The bulletin board should be eye-catching, simple , colorful, and readable at a glance. If carefully planned, it can help the pupils tie together the scattered bits of learning they have acquired into a complete picture. It can be a means of helping them organize and generalize.

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[11] These are adapted with permission, from Toledo Public Schools bulletin **"Administering Classes for Slow Learners,"** 1961-62, p. 15.

3. Furniture, Equipment, Materials—State Standards provide that equipment and materials shall at all times fit the maturity and interest levels of the children. Insofar as possible, furniture and equipment should be arranged so as to provide for good grouping for academic work, for special activities and for meeting the needs of the various physical disabilities of the class members.

What do you know about your school? Is it basically concerned with the maintenance of academic standards—or is it primarily concerned with helping children realize their fullest potentialities? Is it a school where traditional practices predominate or where more modern educational procedures are encouraged? As far as possible, what you do within the school setting should be within accepted practices for the rest of the building. Particularly if you work with older children, you will want your slow-learners to have as many contacts with the regular class group as is feasible, and the adjustment of the children to the different settings will be facilitated if there is both mutual respect between other members of the faculty and yourself and somewhat comparable learning situations in the different rooms. In all secondary school groups the Division of Special Education encourages as much participation in the following non-academic activities for each pupil as he, individually, is able to "take": home room, clubs, athletic activities, gym, music, art, industrial arts, home economics.

What do you know about your school community? How interested are the parents and other citizens in what the school is doing for their children? Is this interest expressed in constructive ways? Are they people who are ready and willing to accept a program which emphasizes child development rather than academic achievement, per se? Have they been accustomed to classes for handicapped children, or is yours the first venture of this kind in the town? What facilities for educational excursions are available in the community? What shops, stores, farms or institutions[12] exist nearby which might be utilized in occupational training and later job placement for your slow-learning pupils? You will want to find answers to these before you plan extensively for work with the children; a strong special education program is more likely to flourish where there is understanding, respect and support from parents and the community.

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[12] By "institutions" we refer to hospitals, county children's homes, county homes, tuberculosis sanatoria, etc. These offer many maintenance jobs of a kind which slow-learners can be trained to handle satisfactorily.

Chapter VII: WHAT ARE GOALS FOR THE PROGRAM?

What do you see as goals for a program of special education intended for slow-learning children? As a classroom teacher, you will work with these children for a minimum of a year, a maximum of four years. You will be concerned a good deal of the time with what is happening to your own little group. Yet, where special class programs have failed in the past, it has been largely because they failed to point in any particular direction. In what may be referred to as "regular education," there are specific goals with which all teachers in a given system are familiar; in regular classes teachers and children alike have goals to work towards, and while the goals may not be appropriate for all, they at least lend a kind of stability to what goes on in the classrooms each day. The kind of program offered by regular schools may be roughly compared to the kind of clothing produced by wholesale garment houses for public consumption. What about a program for slow-learners?

Ready-made clothing usually needs alterations[1] to fit the so-called normal individual; those who differ widely from the norm require custom tailoring. In custom tailoring there is never a definite standard pattern; there must always be certain principles followed relative to measuring, fitting and refitting. With this basic philosophy it is necessary to state certain objectives in order that the program have direction and move towards certain rather definite outcomes. Among these at the moment we think of:

1. *Giving the child the kinds of experiences that will contribute to a healthy personality.* School should be a place where children are happy while learning; and children—like people in general—can find real pleasure only when they are able to derive satisfaction from their work. In the special class situation these children are able to succeed and to take personal pride in their accomplishments. Then children—again like other people—have an urge to "fit in," to "belong" with the rest of the group. Special education helps develop that sense of personal worth in children who in a large, unselected group, would be conspicuous by their inability to contribute or to be a part of the group. The opportunity to be recognized in an "approved" situation can often make the difference between the child who grows up to take his place in the community and the one who becomes a delinquent.

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[1] "Alterations" should imply a flexible program in the schools, with modified work for some children, an enriched program for others, the "regular" program for most. In many school systems a remedial program appears to be the method for permitting alterations.

2. *Helping the child develop acceptable attitudes towards his family, school, community, country, self.* Special education can help children from a poor environment to develop desirable standards and habits of behavior. The children can learn to meet people with ease, to present an attractive appearance, to undertake and carry out such simple social responsibilities as a luncheon, a tea, a picnic, a school party. It may be noted that many of these children's parents are socially unacceptable today and therefore unable to secure steady employment or to live in a decent neighborhood—because no one helped them to make socially acceptable adjustments when they were young. For these children, table setting, dish washing, steam pressing, hair styling and learning how to meet people may have important vocational implications as well as social ones.

3. *Giving the child proficiency in certain skills—among them the 3 R's coupled with what might be called social living skills, or the ability to "live with" people.* In a good special education situation the child goes farther academically than otherwise. Slow learners ranking in the middle 70's may be expected to achieve academically up to the 6th grade level; those in the middle 60's can reach 3rd or 4th grade achievement; and even the low 50's can reach a 2nd grade level. This means that even with the slowest children admitted to public school classes, academic education can be functional: they can learn to read street signs, to follow simple safety rules in shops, to follow directions on recipes and so on. Those children at the upper end of the special group can learn to read newspapers and most popular magazines; they can develop sufficient skill to be able to adjust in industry and in society without being noticeably different from their fellows.

4. *Preparing the child to recognize his own limitations and potentialities, and training him realistically for life in the community,*[2] *employment, participation in activities of groups, use of leisure time, and so on.* Given occupational guidance and training, these children as adults can fill an important place in industry by providing a source of labor for the unskilled and semi-skilled work upon which others depend. Special education will often make the difference

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[2] These children, as adults, generally remain in their home communities. Even when drafted for military service there is a strong tendency for them to return "home" once their period of time with the armed forces is completed.

as to whether the child as an adult will stand in the line of the unemployed and unemployable seeking public assistance or with the employed who are producing in the community.

If these goals are to be reached, there must be a planned program which will provide:

(a) **Appropriate learning experiences for each level of maturity**, so that children are neither pushed beyond their ability levels nor permitted to waste time in mechanical repetition of tasks which they have already mastered.

(b) **Variety of experiences**, so that all possible approaches to learning situations may be explored.

(c) **Continuity of experience**, so that each year of school builds upon the foundation of previous years.

(d) **Opportunity for progress**, so that there may be recognition by parents, teachers, and children that pupils are advancing in the program, even though promotional policies, because of the relatively small numbers involved, generally necessitate that children remain in the same room for more than one year.

This implies that wherever more than one slow-learning class exists teachers must work cooperatively in the development of the local program. Through experimentation, consultation and constant revision of practices, teachers can evolve over a period of time a curriculum which will fit the particular size and type of community where they are working.

In planning classroom work, the teacher should draw upon her knowledge of child development and sequential learning patterns. When Sara and Johnny, with comparable mental ages, come to her classroom she will probably find that they have quite different performance levels. This will not surprise her, if she realizes that within mental maturity levels children have different strengths and weaknesses, and that past experience as well as social, emotional, physical and mental maturity will influence the way each child performs in school.

What do you see as goals for the year just ahead? Without a prescribed amount of reading, arithmetic and so forth to "cover," what guides do you have to help you determine what experiences your children should have in the coming school year? Let's look at what information you have about them:

1. How old are they chronologically? How wide an age spread do they represent? What are the physical activities in which children of those ages are generally interested? What constitutes satisfactory social behavior—on the street, in the theatre or ball park, in stores and restaurants—for children in that age range? In planning for the year's activities, how many of these things can you see in the picture for your handicapped pupils?
2. How old are your children mentally? The individual mental ages will indicate the approximate level of academic work at which, ideally, each child is "ready" to perform. The kinds of academic experiences and situations requiring abstract thinking from which your group should be able to profit during the year will be largely determined by the range of mental ages represented in the class.[3]

With the above two items in mind, some teachers have found it helpful to make tentative plans for the year's program, listing items in a notebook in order of difficulty—or in the order in which they "naturally" follow one another. In doing this, a teacher recognizes that the children may help to change her mind about this program as time goes on, but at least she has a framework from which to start.

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[3] See tables A, B, C, and D for sample groupings of children representing different age levels. These class groups represent typical classes.

TABLE A Record: PRIMARY SLOW LEARNING CLASS

	September, 196__					June, 196__				Mental Growth During School Year
NAME	C.A.	M.A.	I.Q.	G.E.* C.A.	G.E.** M.A.	C.A.	M.A.	G.E.* C.A.	G.E.** M.A.	
1. Rose	10–^{0}	6–^{2}	62	4	Pre-ac.	10–^{10}	6–^{8}	5	1	6 mos.
2. Mary	9–^{8}	5–^{6}	56	4	Pre-ac.	10–^{6}	5–^{10}	5	Pre-ac.	4 mos.
3. Patty	9–^{5}	6–^{10}	73	3	1	10–^{3}	7–^{5}	4	1	7 mos.
4. Hubert	9–^{4}	5–^{7}	60	3	Pre-ac.	10–^{2}	6–^{1}	4	Pre-ac.	6 mos.
5. Jack	9–^{0}	4–^{11}	54	3	Pre-ac.	9–^{10}	5–^{3}	4	Pre-ac.	4 mos.
6. Gilbert	9–^{0}	6–^{6}	72	3	1	9–^{10}	7–^{0}	4	1	6 mos.
7. Lois	8–^{10}	6–^{0}	68	3	Pre-ac.	9–^{8}	6–^{6}	4	1	6 mos.
8. Donald	8–^{7}	5–^{7}	65	3	Pre-ac.	9–^{5}	6–^{1}	3	Pre-ac.	6 mos.
9. Arthur	8–^{5}	4–^{10}	57	2	Pre-ac.	9–^{3}	5–^{3}	3	Pre-ac.	5 mos.
10. Sammy	8–^{2}	5–^{6}	67	2	Pre-ac.	9–^{0}	6–^{0}	3	Pre-ac.	6 mos.
11. Ronnie	7–^{7}	5–^{8}	75	2	Pre-ac.	8–^{5}	6–^{3}	2	Pre-ac.	7 mos.
12. Charles	7–^{2}	5–^{0}	71	2	Pre-ac.	8–^{0}	5–^{7}	2	Pre-ac.	7 mos.

*—indicates grade in which this pupil would probably be enrolled if he were making standard school progress. It gives clues for expected **physical development** and **social interest** levels.

—represents the **highest potential ability for work which could reasonably be expected in **academic skill** areas. Whether a child is able to **use** his ability depends upon many factors; the teacher will have to know the children individually before setting goals for expected progress during the year.

TABLE B Record: INTERMEDIATE SLOW LEARNING CLASS

NAME	September, 196__					June, 196__				Mental Growth During School Year
	C.A.	M.A.	I.Q.	G.E.* C.A.	G.E.** M.A.	C.A.	M.A.	G.E.* C.A.	G.E.** M.A.	
1. Nathan	13–^{2}	8–^{4}	64	7	2	14–^{0}	8–^{10}	8	3	6 mos.
2. Yvonne	13–^{0}	8–^{10}	68	7	3	13–^{10}	9–^{4}	8	3	6 mos.
3. Tom	12–^{9}	7–^{11}	62	7	2	13–^{7}	8–^{6}	8	3	7 mos.
4. Edward	12–^{8}	7–^{0}	55	7	1	13–^{6}	7–^{5}	8	1	5 mos.
5. Jean	12–^{7}	9–^{2}	73	7	3	13–^{5}	9–^{9}	7	4	7 mos.
6. David	12–^{6}	7–^{6}	60	7	2	13–^{4}	8–^{0}	7	2	6 mos.
7. Otto	12–^{6}	8–^{0}	64	7	2	13–^{4}	8–^{6}	7^{+}	3	6 mos.
8. Frances	11–^{9}	7–^{2}	61	6	1	12–^{7}	7–^{8}	7^{+}	2	6 mos.
9. Anna	11–^{9}	8–^{8}	74	6	3	12–^{7}	9–^{3}	7	3	8 mos.
10. Henry	11–^{8}	7–^{8}	66	6	2	12–^{6}	8–^{3}	7	2	7 mos.
11. Bob	11–^{6}	8–^{0}	70	6	2	12–^{4}	8–^{7}	6	3	7 mos.
12. Bill	11–^{3}	6–^{0}	53	5	Pre-ac.	12–^{1}	6–^{5}	6	Pre-ac.	5 mos.

*—indicates grade in which this pupil would probably be enrolled if he were making standard school progress. It gives clues for expected **physical development** and **social interest** levels.

—represents the **highest potential ability for work which could reasonably be expected in **academic skill** areas. Whether a child is able to **use** his ability depends upon many factors; the teacher will have to know the children individually before setting goals for expected progress during the year.

TABLE C Record: JUNIOR HIGH SLOW LEARNING CLASS

NAME	September, 196__					June, 196__				Mental Growth During School Year
	C.A.	M.A.	I.Q.	G.E.* C.A.	G.E.** M.A.	C.A.	M.A.	G.E.* C.A.	G.E.** M.A.	
1. Steven	16–^{0}	11–^{6}	72	10	6	16–^{10}	11–^{6}	11	6	***
2. Walter	16–^{0}	9–^{10}	62	10	4	16–^{10}	9–^{10}	11	4	***
3. Sylvia	15–^{11}	11–^{4}	71	10	5	16–^{9}	11–^{4}	11	5	***
4. Catherine	15–^{9}	10–^{6}	67	10	5	16–^{7}	10–^{8}	11	5	2 mos.
5. Paul	15–^{6}	11–^{7}	75	10	6	16–^{4}	12–^{0}	10	6	5 mos.
6. Marion	15–^{2}	9–^{9}	65	9	4	16–^{0}	10–^{4}	10	4	7 mos.
7. Jack	15–^{0}	8–^{7}	58	9	3	15–^{10}	9–^{1}	10	3	6 mos.
8. Ernest	14–^{11}	10–^{5}	70	9	4	15–^{9}	11–^{0}	10	5	7 mos.
9. James	14–^{3}	10–^{4}	73	8	4	15–^{1}	11–^{0}	9	5	8 mos.
10. Francis	14–^{2}	9–^{8}	69	8	4	15–^{0}	10–^{3}	9	4	7 mos.
11. Curtis	13–^{8}	7–^{4}	54	8	1	14–^{6}	7–^{10}	9	2	6 mos.
12. William	13–^{7}	9–^{0}	66	8	3	14–^{5}	9–^{6}	8	4	6 mos.

*—indicates grade in which this pupil would probably be enrolled if [illegible] making standard school progress. It gives clues for expected **physical development** and **social interest** levels.

—represents the **highest potential ability for work which could reasonably be expected in **academic skill** areas. Whether a child is able to **use** his ability depends upon many factors; the teacher will have to know the children individually before setting goals for expected progress during the year.

***—These are reaching maturity—continue to learn, but on horizontal rather than vertical base.

TABLE D Record: SENIOR HIGH SLOW LEARNING CLASS

NAME	September, 196__					June, 196__				Mental Growth During School Year
	C.A.	M.A.	I.Q.	G.E.* C.A.	G.E.** M.A.	C.A.	M.A.	G.E.* C.A.	G.E.** M.A.	
1. Richard	19–^{2}	10–^{2}	64	12^{+}	4	20–^{0}	10–^{2}	12^{+}	4	***
2. Jerry	18–^{10}	11–^{6}	72	12^{+}	6	19–^{8}	11–^{6}	12^{+}	6	***
3. Rosemary	18–^{6}	12–^{0}	75	12^{+}	6	19–^{4}	12–^{0}	12^{+}	6	***
4. Harold	18–^{4}	9–^{3}	58	12^{+}	3	19–^{2}	9–^{3}	12^{+}	3	***
5. Kathleen	18–^{2}	11–^{2}	70	12^{+}	5	19–^{0}	11–^{2}	12^{+}	5	***
6. Leslie	17–^{11}	12–^{8}	79	12	7	18–^{9}	12–^{8}	12^{+}	7	***
7. Philip	17–^{1}	11–^{9}	74	11	6	17–^{11}	11–^{9}	12	6	***
8. Joseph	17–^{0}	10–^{6}	66	11	5	17–^{10}	10–^{6}	12	5	***
9. Patricia	16–^{10}	8–^{10}	56	11	3	17–^{8}	8–^{10}	12	3	***
10. Harold	16–^{7}	11–^{0}	69	11	5	17–^{5}	11–^{0}	11	5	***
11. Shirley	16–^{4}	12–^{5}	78	10	6	17–^{2}	12–^{5}	11	6	***
12. Bernard	16–^{0}	9–^{6}	61	10	4	16–^{10}	9–^{4}	11	4	***

*—indicates grade in which this pupil would probably be enrolled if he were making standard school progress. It gives clues for expected **physical development** and **social interest** levels.

—represents the **highest potential ability for work which could reasonably be expected in **academic skill** areas. Whether a child is able to **use** his ability depends upon many factors; the teacher will have to know the children individually before setting goals for expected progress during the year.

***—These pupils have reached or are reaching adult mental maturity. Further mental growth is too slight to be measurable. Learning continues on a plateau—but **it does continue.** Practical application of known skills is important to stress with this age level.

What about planning for the first month? Suppose Miss Jones has decided that the greatest need for her group at their present developmental stage is a study of the neighborhood. What are the most immediate needs for those children to know? It might be transportation within the neighborhood—including ways the children get to and from school, the movies, Sunday school, the ball park, etc. This may lead into a sub-topic of safety, since there are right and wrong ways of crossing a street, boarding a bus, and so on. She can line up those rather obvious beginning topics for the month of September—and leave the door open for any other phase of the work which may seem feasible after she has worked with the group a few weeks. At the same time, Miss Jones will be more concerned with observing the children during that first month—on the playground, in the classrom, in the halls, wherever she may encounter them; she will be trying to estimate social and emotional growth, along with the measurements of mental development and physical growth which the records have given her. She will be checking academic achievement—if the children are sufficiently mature to have acquired academic skill—and attitudes towards school, getting to know her children as individuals and their families as people, so that she will be in a more advantageous position to help the children in the year ahead. The check on academic achievement will apply, of course, only to children with mental ages above 6½. For children who are less than 6½ mentally, observations should center around the development of language and number concepts, since this is the appropriate functioning level for their maturity.

The teacher should recognize that there will be a happier living situation through the year if certain room duties are assumed by the children during this first month. The children can help decide what these will be, and—since there is little likelihood of there being a sufficiently large number of duties for each child to have one every week—a system of rotation should be set up.

There are training opportunities in such duties for children. In many schools the special class children assume major responsibility for the care of their own classroom. There are some junior high schools where boys and girls alike are taught to wash windows, where the boys take care of seating in the auditorium-gym for assemblies, where the special class cares for the school grounds (under janitorial supervision). Similarly, various housekeeping duties in connection with the school cafeteria and school bookstore may be carried out. In this way leads for occupational training are started.

The first month of school will also be the time when the teacher is grouping her children, tentatively—organizing working groups so as to get her program under way. In doing so, she will work with the total group in the beginning. Over the first three or four weeks there will be times when the teacher will send a few children to work independently for short periods while she spends more time with the remainder of the class who need more direct attention. Within the first month to six weeks Miss Jones will attempt to group her children for work in the skill areas (including various readiness skills for a primary class). However, she recognizes that groupings are flexible, that quite probably some of the children will be moved up or down the scale in specific skill groups (reading and arithmetic) as the year continues. There will be more small group work as the teacher grows to know individual needs and growth patterns and as the children learn to handle small group situations. Yet there will continue to be times in the day when the children are drawn together as a class.

What about the first week of school? Opening days set the pace for those that follow. Plans must be made at that time with the children for ways of working during the coming year. There must be rules to live by, or else it will be impossible for the group to work in anything resembling harmony; the children—even slow-learning children—are able to recognize some of these, and are more likely to accept such rules if they have contributed to their formation.

Rules should be as **few** as possible, and they should be followed **consistently** once they have been adopted. Slow-learning children are easily confused when confronted by many requirements at one time, but learning to follow a few simple rules is within the capacity of even the youngest child if he is helped to understand what the rules are and why they have been made.

The first week of school is an exploratory one for the children, too. With her September plans in mind, Miss Jones will "set the stage." Picture corners, information tables, book tables, a variety of things which will point up her unit topic, are placed within "seeing, hearing and feeling" reach of the boys and girls. In addition, there will be somewhere in the room a collection of books, toys, pictures, objects representing many different topics and interests. Miss Jones will watch carefully the choices made by individual children—and by the group—from this collection; it will not only give her some clues as to whether the children's interests are in line with her planning for the month, but will be revealing in terms of social and emotional development within the group.

One more item will probably be noted during the first week of school. Although the work of slow-learners is much more informal than that conducted in some regular classrooms, regularity is needed in the school day. The pupils need to feel the security which comes from a certain routine, even though that routine is kept sufficiently flexible to take care of changes in plans from day to day or week to week. The first week of school is a splendid time to experiment with time blocks and find out the kind of schedule which this particular group of children can "take" with the greatest of ease. As with rules for social behavior, the daily schedule will be accepted with greater enthusiasm by the children if they understand it.

This does not mean that the children decide what they will do and when they will do it any more than they made the actual decision on which rules were established for social behavior. It does mean that after the teacher has decided what general schedule best meets both the requirements of the children and the pattern of the school, she acquaints the children with the schedule and with the reason for it. Even young slow learners can be helped to understand why quiet activity comes at certain times and why noisy or active play must be restricted when others are working.

What about the first day of school? Besides having the "stage set" to begin work, Miss Jones knows that there are many interesting activities she can introduce that first day which will help her begin to estimate the children's working levels and simultaneously help the group to become acquainted (or re-acquainted) with each other.[4] Some of the possibilities from which she may choose the day's activities are:

1. Talking over summer activities with the pupils, encouraging each to make some contribution to the general discussion. This will help her to evaluate the children's ability to express themselves through a language medium.
2. Reading a short story to the children—one selected to appeal to their age group; following that, encouraging the children to:
   (a) Re-tell the story in their own words
   (b) Dramatize the story, or

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[4] These are activities which can be adapted to any age group. The choice of books, directional games, etc., will vary. For example, visual perception is developed in many ways; one medium used is that of picture puzzles. Wooden Judy puzzles might be chosen for a primary class, while intricate jigsaw puzzles would serve the same purpose in a secondary school group.

    (c) Draw an incident from the story which was funny, interesting, and so on. This, again, will give her a rough measure of the children's language comprehension; in addition, it may help "spot" one or two children with relatively more creative ability in this area than the rest of the group.

3. Selecting a colorful action picture about which the children can talk. This will again give a rough idea of the children's ability to handle words meaningfully. Even in junior high school groups it is possible to find a pupil who is still at the enumeration stage of picture interpretation, alhough most older slow-learners can describe the picture, and a few are able to project ideas regarding what has happened, what is happening and what may come next.

4. Working with jig-saw puzzles. While this appears to be play to the children, actually good visual perception is necessary to complete a puzzle successfully. Where speed is a factor, eye-hand coordination may also be in the picture.[5]

5. Writing information needed for general files: name, age and birthday, address, parents' names, number of brothers and sisters. This may be beyond the ability of some slow-learners less than eleven years old (and beyond the achievement level of a few who are older); however, these are things which the children have been "exposed to" since starting school, and will give the teacher an idea of how much they have assimilated through repetition. Moreover, at least their names and addresses are facts which even slow-learning children may need to know in order to get along in the community; age and birthday will be required in job applications, later. If this is a class for upper elementary or secondary school age children, such information should probably be included in the year's planning for the group, particularly for those who cannot write it at the beginning of the term.

6. Having a free reading period. While the children explore books from the library table or bookcases, Miss Jones can call individual children up to her desk for short periods; ostensibly this is for a reading check (although reading achievement will be more carefully scrutinized later, after the children have become more "settled"), but any reading

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[5] "Timed" work with jig saw puzzles, peg boards, and such may be a definite part of training for certain assembly line jobs, such as the manufacture of radio tubes and electric light bulbs, where precise motions are a "must."

is kept on a voluntary basis: "Would you like to do some reading for me today?" Because some in the group may lack ability and/or achievement in reading, Miss Jones includes in the materials for the "reading" check some books where "picture reading" or interpretation may serve this purpose. Then **every** child in the class can be included in the activity.

At this time, it is more important for Miss Jones to get some idea as to the child's attitude towards reading, his readiness for it (both mentally and emotionally), the factors which he believes have contributed to his failure to make acceptable reading progress. All of these things may not be apparent at first contact, so Miss Jones plans to repeat this "free reading" period every day, possibly for a week or more. Since she wants to encourage the child to tell how he **really** feels about reading (not just parrot what he thinks the teacher wants him to say), she must at all times maintain a permissive attitude, withholding any comment which the child might interpret as being critical of him. Because reading has frequently been a major "bugbear" in the school life of many a slow-learning pupil, his attitude toward it can color his whole adjustment in the school situation.

7. Having an experimental arithmetic period, when through the use of number activities appropriate to the maturity of the group, the teacher informally "puts out feelers" to gauge the background of the group in arithmetic.

For primary classes, this might mean having each child in the group take turns bouncing a ball until he fails to catch it, counting as he bounces. The other children count with him, and the teacher notes which ones are able to count in sequence to 5, to 10, above 10. (At the same time, the catching of the ball is an indication of eye-hand coordination of the little folks) . . . For upper elementary groups a directional game can be inaugurated, whereby they are called upon to find certain dates (i.e. holidays, birthdays) on the calendar, to tell time (when we come to school, when we go to lunch, when the stores downtown open on weekdays, when the theatre opens on Saturday afternoon, etc.) by the clock, to make change up to a dollar, to measure inches, feet, yards, quarts, and pints . . . . This same sort of thing can be done, on a little more difficult level, for secondary school groups; or through the use of clipped newspaper advertisements (distributed among the class) they may be introduced to practical situations: the cost of a bicycle tire, an auto headlight. an electric light bulb, a pound of butter, a pair of shoes, and so forth.

8. Playing educational games, suited to the age of the group.

   For an active type of game, "Simon says" can be adapted, with the leader introducing the words "up, down, left, right" (primary groups), or "east, west, north, south" (older groups) in the course of the game. This entails following verbal and visual directions. . . . For a quiet game "I'm thinking of"—"the color of Mary's hair ribbon" (primary group), "the day we do not come to school" (intermediate group), "a word that begins with H and has five letters" (secondary school group). This will help to estimate, particularly with older children, the readiness for a series of directions. With slow-learning children in the primary groups, following one direction at a time may be all that can reasonably be expected. As they grow older, these boys and girls can be trained to follow a series of two, three or four directions given simultaneously.

In addition, Miss Jones allows time somewhere in that first day of school to introduce discussion of rules to be adopted for classroom living and consideration of the daily program.

Guidelines For Planning a Daily Program

For many years a school program consisted of series of 20 to 40 minute "periods." Arithmetic was the "standard" beginning subject, except for first grade where READING was the all-important thing. One subject followed another; children knew that every morning before recess would be arithmetic, after recess would come reading, English and spelling in regular succession. From fourth grade on, the afternoons began with geography, and so it went.

Within the last generation, a gradual change from this pattern has been taking place; with the new knowledge of child development available to teachers and administrators today, the places where elementary schools are subject-matter-centered to the point of chopping the school day into disconnected fragments are becoming fewer each year; even in the junior high schools there is appearing a move to keep seventh-grade pupils, at least, (and in some places the entire 7th, 8th and 9th grade groups) with a home-room teacher one-half of the school day, in which time she combines three or four of the so-called "major subjects" as she sees fit. If flexibility in a daily program is necessary for the well-being of the child without a handicap, how much more is it essential for the slow-learning child!

What are some of the considerations in planning a daily program for slow-learners?

1. Is your teaching to be done through a "core" or "unit" approach—where big blocks of time are essential—or are you a person who feels more secure in following what may be called a more traditional pattern of working? While activity-type programs are frequently mentioned as advantageous for slow-learning children (since they afford many opportunities for concrete learning experiences), how the teacher feels about attempting it should be a primary consideration. For the teacher who can do an acceptable job with activity programs—and feel happy doing it—use that approach, by all means! But if she feels insecure, the children are likely to "catch" her insecurity; and no one will receive maximum benefit from such a situation. It is possible for children to be quite relaxed in a more traditional setting, if their teacher is, herself, relaxed, if she has sufficient understanding of their problems, if the work is geared so that they can achieve success without feeling under pressure, and if the content is appropriate to their needs.
2. When is likely to be the most "settled" period in the day for your children to work? The old idea of placing arithmetic or reading early in the morning was based upon the supposition that the children were "freshest" and best able to work at tasks requiring considerable thinking and concentration when they first came to school. On the contrary, for many children in special classes this is the very time when they are at low ebb: Frank, whose home is impoverished, arrives at school without breakfast; Peter, who is one of a family of eleven, "didn't feel like eating" (and Mother was too busy with the others to notice whether he had food) also arrives without breakfast; Anna and Louis were kept awake part of the night by quarreling adults and a noisy jukebox downstairs; Karl, a lawyer's son, and Joan, daughter of a commercial artist, are constantly aware, even at the breakfast table, that the rest of their families are disappointed to discover a slow-learner in the family circle; a need for acceptance "as people" is uppermost for them when they arrive at school. For many of these boys and

girls, early in the morning is a time for forgetting the world beyond the schoolroom, for quieting relaxing experiences that will put them "in the mood" for the rest of the day. Had it occurred to you to start the day with quiet music? a story? a round-the-circle discussion of things the children consider important? a planning period for the day ahead?

3. What are the "set" times—recess, lunch, possible participation in gym, art, music, and so on—around which you will have to build?

4. How much will the maturity—both physical and social—of your children determine for you the length of time blocks and the need for active and quiet periods?

You will want to set up a daily schedule that keeps these factors in mind.

In earlier bulletins samples of daily class schedules were included. With 293 school districts now operating slow-learning classes (1961-1962) it is impossible to show a program which would lend itself equally well to all. Instead, a suggested distribution of time is shown for elementary schools and a listing of areas for departmentalized junior-senior high schools; for primary classes, time indicated for skill work may be used for readiness rather than spelling, arithmetic, reading, etc.

Daily Distribution of Time[6]

Because many factors, such as level of achievement, rate of learning, expectancy of the various pupils in the class, must be considered, it is difficult to set definite time limits for daily instruction.

The following distribution of daily time is offered only as a very general plan. Because of the variations in individual abilities and needs, each teacher must each year plan her own schedule that best suits her specific situation.

A daily time schedule is necessary for efficient organization of work and as a contributing factor to the children's feeling of security. However, it must be flexible and the teacher is not expected to hold strictly to the schedule at all times.

This schedule is suitable for self-contained classes at the elementary level.

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[6] Used with permission from Toledo Public Schools bulletin, **Administering Classes for Slow Learners**, 1961-62, pp. 21-22.

Schedule for Working with Two Groups

Opening Exercises (10 minutes per day)

Reading Skills (40 minutes per day)

20 minutes—each group working with the teacher
20 minutes—each group working alone

The time allotment may be broken up into more than one period, depending upon the interest span of the children.

Follow-up Activities (50 minutes per day)

25 minutes—each group working with the teacher
25 minutes—each group working alone

The time allotment may be broken up into more than one period, depending upon the type of activities and the interest span of the children.

It may be desirable, or necessary, at times to take the class as a whole, rather than by groups.

Oral Expression—sharing, word usage games, other activities (20 minutes per day)

The work will, for the most part, be conducted on a two group plan but occasionally with the class taken as a whole.

Practice in oral expression is, of course, not confined to specific periods but occurs throughout the day.

Written Expression (20 minutes per day)

10 minutes—each group working with the teacher
10 minutes—each group working alone

Practice in written expression occurs as part of various lessons and assignments throughout the day and is not an isolated activity.

Spelling (20 minutes per day)

10 minutes—each group working with the teacher
10 minutes—each group working alone

Writing Skills (20 minutes per day)

10 minutes—each group working with the teacher
10 minutes—each group working alone

Arithmetic (40 minutes per day)

20 minutes—each group working with the teacher
20 minutes—each group working alone

The time allotment may be broken up into more than one period depending upon the type of activities and the interest span of the children.

Music (10 minutes per day)

For older children it may be desirable to divide the 50 minutes per week allotment into three periods of about 15 minutes each.

Rhythms, Games, Gym (30 minutes per day)

The time allotment may be broken up into more than one period, depending upon the interest span of the children and the availability of space.

Arts and Crafts (20 minutes per day)

Creative work, bulletin board planning and execution
Construction of 'props' for activities, shop, sewing, etc.

For all but possibly the very young children, dividing the time allotment of 100 minutes per week into two or three longer periods rather than a short daily period will be more profitable.

Lavatory and Milk (15 minutes per day)

Clean-up and Evaluation (20 minutes per day)

10 minutes—morning
10 minutes—afternoon"

With slow learning pupils in junior high seventh and eighth grades, it is suggested that the program **pattern** proposed for regular seventh and eighth grades by the Division of Elementary and Secondary Schools[7] be followed, with appropriate adjustments made to conform to Special Education Standards.[8] It should, of course, be recognized that program **content**, materials, and achievement level will differ markedly in academic areas from the usual seventh and eighth grade work.

In the senior high—or grades nine through twelve—the in-school program pattern should conform as closely as possible to that for other pupils. Academic areas—English, Social Studies, Science, Mathematics, should be scheduled for the same amount of time as is given to the same subject in other courses; course **content**, materials used and achievement level expected will, as with the junior high, differ from the other programs in the school.

A block of time should be scheduled for occupational orientation and job experience, since the professed aim of the slow learning program is to lead towards employability. No slow learner is to be assigned to a regular academic class, and care should be exercised in selecting those who may enter art, music, physical ed, industrial arts and shop. This will parallel, especially for eleventh and twelfth grades, the courses in Distributive Education, Trades and Industries, etc. for more capable students. At no time should slow learners be assigned to general study halls.

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[7] **Ohio High School Standards**, 1958—p. 29.

[8] Section 8.732 and 8.7321 State Board of Education Standards are specific in stating the responsibilities for special class assignments.

It is recommended that selected pupils in senior high slow-learning programs be enrolled in such non-academic courses as listed in the Standards (8.7321); where enrollment in such a class or in a school activity (such as student clubs or varsity athletics) would interfere with responsibilities in job training, the work experience should be recognized as making a greater contribution to the slow learner's future.

The slow learner who completes the high school program to which he is assigned is entitled to graduate with the rest of his class. The following statement was issued by Mr. Glenn Rich, Director, Division of Elementary and Secondary Education, and Mr. Ray A. Horn, Director, Division of Special Education to help answer questions from Ohio administrators relative to such programs:

> "In recent years many questions have been raised by school administrators with the Department of Education relative to programs for slow learning pupils at the high school level. This has been brought about because of the fairly rapid expansion of this program in the past five years. In response to the many questions regarding a terminal program, graduation, and the granting of a diploma to these students, the following is offered as a guideline:
>
> 1. The State Board of Education has established through the High School Standards the basic minimum quantitative requirements for graduation at 16 units of credit. There is no stipulation in the High School Standards which establishes a level of achievement to receive a passing grade in a subject or to earn a unit of credit. From this point of view it would appear that if a pupil performed at a maximum level of ability and was given a grade and granted credit, the requirements of the High School Standards would be met.
> 2. A board of education has the authority to establish differentiated curricula and to set the level of achievement which may be expected in each curriculum. A pupil who completed any one curriculum satisfactorily

could be granted a high school diploma which would bear the name of the curriculum completed. Thus if a board of education wished to establish a special education curriculum, a pupil who completed it could legally be given a high school diploma. However, the transcript should carry the notation that the pupil had been enrolled in the special education curriculum and the principal or executive head of the high school would be under no obligation to recommend this pupil for college entrance.

3. The special education curriculum would have to include three units of English; two units of social studies, one of which must be American history; one unit of mathematics; one unit of science; and one unit of health and physical education with the opportunity to earn eight additional units in elective subject matter fields. The nature of the course and the level of work would necessarily have to be geared to the ability of the pupil.

Section 3313.61 R. C. indicates that a board of education has the authority to grant only a high school diploma to a pupil completing the curriculum. Therefore, it would appear that a certificate of attendance or similar document would not meet the requirements of the law."

Part III: INSTRUCTIONAL PROGRAM

Chapter VIII: HOW DOES ONE GO ABOUT TEACHING SLOW-LEARNERS?

1. Slow-learners, like all children, must be "ready" for what they are expected to learn—whether it be arithmetic combinations or bed-making, spelling words or washing a car. The teacher of slow-learning pupils must develop an awareness of maturation levels in order to gauge readiness for certain tasks. **Readiness implies a need for careful timing** of introductory activities: In developing number sense, for example, there is a time when the child counts; he follows a sequence of things, objects, people, before he thinks in terms of number. With average children, the "more than one" is usually noticeably acquired by three years of age, the spontaneous interest in counting appears by five years of age. With slow-learning children, who will attain a mental age of five sometime between their seventh and tenth birthday, spontaneous counting interest may be expected at any time after the child enters the slow-learning class. The move from counting objects to recognizing number symbols represents generally another year in development; for the slow-learning child it may take as long as two years, although not infrequently he can travel that distance in a year and a half.

2. Slow-learners take just as long to get the distance they will eventually go as all other children. The teacher of these boys and girls must recognize a ceiling in what may be viewed as purely the academic part of the program, together with the fact that it will take a period of years for her children to reach their potential academic achievement level. The length of time needed for what seems a small amount of measureable accomplishment frequently appears difficult for both parents and teachers to accept. This means that while the slow-learning child does have a later starting point for the academic program and a lower academic ceiling, yet **it takes the slow-learner as long to reach his ceiling as it does the normal child to reach his.** This fact is the basis for the Division's request that a minimum of twelve years of education be made available for these boys and girls. Actually, if twelve years of school ex-

perience are considered necessary for the average and superior students—and to this most present day schools are subscribing — they are even more essential for the slow learner.

3. In general, after the slow-learning child is ready to begin an academic program, he moves from one-half to three-fourths of normal speed. This means that his teacher must recognize that the kinds of educational materials frequently used in regular classes will not be geared to meet his needs; she will have to exercise both discrimination and ingenuity in selecting and devising materials which will fit the pace with the slow-learning child's rate of learning. Many of the materials developed for use with average children have possibilities for **adaptation** with slow-learning children of the same age, but seldom can they be used in identical form.

   There are now a few materials, chiefly readiness and materials in the science and social studies areas that do lend themselves to use with slow learners for every specific purposes.[1] However, these are then used with slow pupils who are older than those for whom the materials were originally prepared.

4. The slow-learner can be taught most successfully through doing, seeing, feeling, experiencing, participating. He is reached less easily through books or other forms of symbolization. This means that for him, the so-called "readiness" work which precedes actual academic programs will be considerably extended, and that throughout his school life he will have ample opportunities for learning through exploration, experimentation, manipulation. This implies that his teacher uses a concrete, rather than abstract, approach wherever possible.

   The jump from concrete to abstract, from specific to general information, is often a longer jump for children than it is viewed to be by adults. For the slow-learning child it has to be carefully bridged by realistic programming fitted to the child's level and potential speed of accomplishment.

5. A slow-learner, like other children, needs a well-rounded program. The special class teacher must plan so that his training will be sufficiently balanced. Undue emphasis should not be placed on reading, for example, or industrial

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[1] See mimeographed bulletin, **Suggested Basic Materials for Use With Slow Learners,** last edited, June, 1961. Distributed through Division of Special Education.

work; the program must not be "lopsided," neither cramming for academic achievement nor totally neglecting academics[2]. This implies that the teacher's viewpoint needs to be a broad one, likewise that the educational program must be broad, its general aim being to polish each facet of the child's potentialities within reasonable limitations.

6. Slow-learning children are frequently unpredictable in responses even in those situations where they have sufficient ability to respond well. This does not **need** to be true, but comes about from past experiences in a home or school situation where the child has been building up defenses. Probably by the time the special teacher gets the slow-learning child he has been subjected to various teaching devices, sometimes over and over. For example:

    (a) Eddie was brought into an elementary slow-learning class just after recess one morning, several weeks after school had started. Miss Peterson was busy, and in her effort to make Eddie feel "at home" until she had the rest of the group settled in their activities, she handed Eddie a large sheet of manila paper, and some crayons, suggesting that he might like to draw a picture while he waited for her. No one was more surprised than Miss Peterson when Eddie abruptly swept both paper and crayons on the floor and buried his head on his desk in a storm of angry tears. Later she learned that in the fourth grade from which Eddie had come—and in which he was unable to participate to any marked degree in the activities of his younger, more capable classmates—his former teacher "kept Eddie busy" by repeated requests for pictures. It later developed that Eddie did have some artistic ability; but after having this as his only outlet over a period of months, drawing was no longer a means of creating or expressing ideas; it was no longer even escape from an unendurable situation; it had degenerated to a symbol of "apartness" which Eddie resisted. Hence his explosive reaction to that symbol when he encountered it in a new situation.

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[2] There are still some people who refer to these children as the "hand gifted" and feel they need no academic background whatsoever. Yet this is still—despite television and moving pictures—somewhat a "reading world"; so long as it is, even slow-learners will need a minimum of reading skill in order to make adequate adjustments to normal living situations in the community. Likewise they will be expected to acquire certain common knowledges—which require arithmetic and language ability—to get along with other people as adults.

(b) Again, there was Madeline. She went to school when she was six. As a part of first grade arithmetic work, her teacher used pegs for counting. Madeline was not "ready," not sufficiently mature, to be interested in counting. The pegs were "sticks" to her. At age seven, Madeline was again in first grade. Again the pegs were used. This time they were "pretty sticks"—and after several months Madeline, whose color sense was further developed than her number sense, could tell the red sticks from the blue, and occasionally distinguish between the orange and red or the blue and green. At age eight Madeline was placed in second grade. Here the second grade teacher used pegs in an effort to "modify" the school program to Madeline's needs. By the end of the year the child could distinguish "2 sticks" from "3 sticks"—sometimes with the aid of her classmates. At age nine, Madeline was transferred to a special class[3]. Was it any wonder she rejected the pegs for number work in her new situation—called them "baby stuff"—although number comprehension still had a long way to go?

Meaningless repetition over and over will eventually cause some children to have what we might describe as an "emotional explosion." Other children will react to this same repetition by withdrawal behavior which is potentially more harmful to the individual. There is no place for **meaningless** repetition in the activities of a good special education program.

Chapter IX: WHAT IS REASONABLE ACADEMIC EXPECTANCY FOR THESE CHILDREN?

In planning a trip, one must know his destination before he can decide upon the particular route he will choose to use in getting there. So with planning an educational program for handicapped boys and girls, where can we expect to take them?

Since the academic part of the program is so important to parents and since this is the area where teachers are most aware of the limitations of these children, let us look first in that direction. In former years, two extremes were seen in such planning. In many places academic drill was introduced too soon for younger slow-learning children and accentuated beyond the point of usefulness for the older ones; in such programs teachers erred on the side of setting goals for reading, arithmetic and such beyond all reasonable limits for children with a mental handicap; the outcome was that teachers, pupils and parents were all likely to be disappointed with the results. On the other hand, there were many classes where academic work ranged considerably below the capacities of the better children in the group; in such cases boys and girls were frustrated upon leaving school to discover they had insufficient mastery of academic skills to enable them to get along in industry. Somewhere between these two extremes lies the real answer for slow-learning pupils.

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[3] This was a few years ago. We would hope that, in accordance with present day recommendations by the Division of Special Education, children like Madeline, whose I.Q. was in the low 60's, would be placed in special classes as soon as they are identified as slow learners.

1. Academic readiness arrives:

   For the child with an I.Q. in the 70's—as he approaches 9 years of age.

   For the child with an I.Q. in the 60's—from 10 to 10½ years of age.

   For the child with an I.Q. in the 50's—from 11 to 12½ years of age.

2. Potential academic expectancy for slow-learners may be pointed up more objectively by showing it in relation to performance to be expected of children in the low average (75-90 I.Q. range) and average (90-110 I.Q. range) groups of comparable age. This is indicated in the table on page 48.

Throughout the school program—particularly with respect to the academic side—emphasis must be laid on two facts:

The **difficulty of material** presented to the children must be geared to their **mental maturity.**

The **content of material** used with the children must be geared to the interests incident to their level of **social maturity.**

In most instances teachers will discover that slow learners are more likely to approach their social and physiological age group in social maturity; but a few—especially the younger ones and those older children whose lives have been quite insecure—will have a social maturity commensurate with their mental development. Since social maturity can be improved with good teacher guidance, the teacher has a responsibility to provide opportunities for social growth within her program.

POTENTIAL ACADEMIC ACHIEVEMENT OF CHILDREN WITH VARIOUS INTELLIGENCE QUOTIENT LEVELS

Chronological Age	Slow Learning Range				Slow Average Range			Average or Above	
	50	**60**	**70**	**75**	80	85	90	100	110
6	**Pre-K**	**Pre-K**	**K**	**K**	K	K	K	K & 1.	1
7	**Pre-K**	**K**	**K**	**K**	K	K	K & 1	1 & 2	2
8	**K**	**K**	**K**	**K & 1**	K & 1	1	1 & 2	2 & 3	3
9	**K**	**K**	**K & 1**	**1**	1 & 2	2	2 & 3	3 & 4	4
10	**K**	**K & 1**	**1 & 2**	**2**	2 & 3	2 & 3	3 & 4	4 & 5	5
11	**K**	**1**	**2**	**2 & 3**	3	3 & 4	4	5 & 6	6 & 7
12	**K & 1**	**1 & 2**	**2 & 3**	**3 & 4**	4	4 & 5	5	6 & 7	7 & 8
13	**1**	**2**	**3 & 4**	**4**	4 & 5	5 & 6	6	7 & 8	8 & 9
14	**1 & 2**	**2 & 3**	**4**	**5**	5 & 6	6	7	8 & 9	9 & 10
15	**2**	**3 & 4**	**5**	**5 & 6**	6 & 7	7	8	9 & 10	10 & 11
16	**2 & 3**	**4**	**5 & 6**	**6**	7	8	9	10	12
17	2 & 3	**4**	**5 & 6**	**6**	7	8	9	10	12
18	2 & 3	**4**	**5 & 6**	**6**	7	8	9	10	12

This chart represents a generalization which is generally true but will vary with individual children. Attention is called to the fact that these ranges represent assumed **maximum performance**, other things being equal. In thinking about the children for whom they have responsibility, teachers and administrators needs also to recognize the following:

1. Physiological development, social maturity, present level of acquired academic skills, if any, and experiential background must be considered before attempting to press towards maximum achievement.
2. No child performs "on a straight line." At all intellectual levels children will evidence strengths and weaknesses. They will generally perform best and be most interested in those subjects or activities closely related to personal strengths. Since school success frequently relates to verbal abilities, a child is likely to have problems in skills such as reading and arithmetic if his major strengths are in non-language areas.
3. There is no substitute for good teaching, timed appropriately for the growth patterns of the individual child.

Chapter X: WHAT DOES ONE TEACH SLOW-LEARNERS?

A. The Language Arts Program

Language is basic to living in any organized society; in one form or another it is used every waking moment. Therefore, in a school setting language cannot be something which is confined to any particular hour or period; it takes place **throughout** the day and permeates the **entire** curriculum.

Language is man's way of communicating ideas and sharing experiences with others. It evolves in an orderly pattern from babyhood to adulthood. The tiny baby hears sounds—a bark of a dog, a clap of thunder, the scream of a siren, at first with no observable reaction other than a startled response. After a time he shows evidences of separating or distinguishing sounds by locating and turning his head in the direction of the source of the sound. A little later a period of babbling and reaction to conversation can be observed. This may be the point where hearing comprehension begins. As growth continues there is a relationship noticed in the association of objects, people, and actions with words. As experiences broaden, the ability to think should develop; it continues in the active individual throughout life.

The degree of communication skill which a child brings with him to school depends upon three factors:

1. His physical development and well being—how well his eyes, ears, fingers, tongue, and nose act as intake agents to bring him into touch with the world around him.
2. His mental maturity—how far he has grown in terms of ability to interpret what he sees, feels, touches, tastes, and smells.
3. His experiential background—how broad his exposure has been to a variety of interesting things and how well he has been helped to understand his experiences.

The teacher will need to take into consideration individual differences in the above three factors when planning her language arts program.

Experiential Background

Since language is a communication process, it requires the inter-change of ideas. Before a child can have ideas, he must have experiences from which they can grow. At the very beginning of school, interesting experiences must be provided to stimulate language use and development. As the school year moves on, as one year follows another, a wide variety of succeeding experiences should encourage more and more adequate use and understanding of language.

The experience, in and of itself, is not important; the increased understanding of himself and his environment as a result of the experience and the use which can be made of this information are what count in the life of the slow learner. A worthwhile experience, properly directed, helps to encourage awareness and interest in people, places, and things around him. It stimulates development of vocabulary by giving him something to talk about; eventually it should bring him to the place where he is interested in written language as well as in oral communication.

Suggested Kinds of Experiences:

1. DIRECT—where children have first hand contact with things around them. These may be things which the children have (sweaters, toys, books), things within the room—(chairs, chalk, cupboards, classroom pets and plants), things which may be discovered within the building, the school grounds, and the neighborhood. Even though many of these will be familiar, it is not safe to assume that because children have had frequent contact with an article they really understand what it is and how it is used. They need to be guided towards direct exploration of each of these in as many of the following ways as possible: seeing, hearing, handling or touching, tasting, smelling, and using. For example:

   a. Apples are fruit which most children have seen, eaten or at least heard about. However, to be certain they completely understand the concept of apple, a number of different varieties need to be collected in the room where the following kinds of observations can be made:

      Visual—differences in size, color
      Touch—texture, as smoothness of skin
      Taste—differences in sweetness, tartness
      Smell—odor when ripe, when cooking (applesauce, etc.)
      Motor—related to use—What is it for? To eat, to cook (applesauce, pies, tarts, apple butter, etc.) to drink (apple juice, cider).

   b. Bells are used in primary classes in connection with music. What kinds of experiences are involved in developing the concept of "bell"? With a collection of bells, there may be:

Visual—differences in size, color, materials, shapes
Auditory—differences in tones—loudness, softness
Touch—differences in size, weight, materials
Taste—flavor of candy bells (usually chocolate)
Motor—related to use—What are they for? To ring, to eat (candy), to play, to decorate (at appropriate season).

c. What kind of experience will explain words with several meanings? Many complex concepts must be built around these. For example—"run."

   (1) **Run** around the playground.
   (2) Tommy's nose **runs.**
   (3) Miss Black has a **run** in her stocking.
   (4) Billy fell in the **run.**
   (5) Jack made a home **run.**

   Children may encounter "run" used in any or all of these contexts. They need to be able to understand the appropriate meaning for each type of usage.

Types of experiences which can lead to understanding word meanings are:

1. Playing and working with other children.
2. Sharing with other children.
3. Caring for their own materials.
4. Caring for the room.
5. Playground activities.
6. Care of pets and plants in the classroom.
7. Trips—within building; within neighborhood.

Since trips are taken at all age levels in the school program, the following suggestions are made more specifically than for the other direct experience activities. Trips can be most profitable **if** there is careful planning and follow-up. They **must** be **purposeful;** otherwise they become time wasters.

Planning

(a) By teacher.
   (1) Find out if visits are permitted. Not all stores, factories, parks, public buildings, and so forth are open to school groups.
   (2) Contact the person or persons with whom the children will be talking. Acquaint the people with the kind of

group you are bringing and the specific purpose of the trip. Remember that lay people are not trained in working with children. Many of them do remarkably well when it comes to explaining the work of certain equipment and so forth; but others may use a vocabulary far beyond the comprehension of slow-learning children—and when words become meaningless the children will lose interest and become restless. It is only fair to the lay person to remind him that children need direct explanations.

(b) With the children.

- (1) For information—What do they expect to find out? What should they listen to? Look for?
- (2) For social behavior—Trips provide an opportunity to build standards for conduct. How must they act on the street? On the bus? In the store?
- (3) For travel experience—How will they get there?

Follow-up

When the children return from an excursion, help them find some way to make use of the information they have gathered. They may tell it, write it (as a group), draw it, dramatize it, make a puppet play, make clay models or a sand table reproduction of what they saw. What they choose to do is not particularly important, so long as they do something to help them remember the things that were interesting and important.

2. INDIRECT—First hand experiences need to be supplemented by vicarious ones. This is to insure enough and sufficiently varied background to strengthen concepts, to relate past experience and language comprehension and lead towards reading and written expression. Among experiences that will aid this are:

- (a) Listening to stories.
- (b) Dramatizing.
- (c) Reviewing or retelling.
- (d) Illustrating—with original drawings or magazine pictures.
- (e) Reading pictures:
  - (1) one picture—interpretation.
  - (2) two or more pictures—in sequence.
- (f) Building own picture stories in sequence.

(g) Finding appropriate picture books and/or story books to share with the class.
(h) Attaching labels and/or captions.
(i) Building own experience stories.
    (1) Class record of experience.
    (2) Individual story.

There are four major facets of language arts which are used as communication skills:

1. Listening.
2. Speaking.
3. Reading.
4. Writing (written expression).

Listening

The ability to listen is of particular importance to slow learners. Since they are likely to be working as adults in situations where directions are given orally, good listening is actually an employability skill for them.

Listening implies more than hearing. It requires a response to that which is heard. If slow learners are to be adequate listeners, they must be specifically taught **how** and **why.**

The first step in listening is learning to be attentive. Children should be helped to give complete attention to the speaker—the teacher, a classmate, a visiting teacher or other classroom visitor—by teaching them to:

1. Clear desks or tables, so no extraneous things will distract attention while speaker is talking.
2. Have good posture.
3. Keep hands quiet, so they do not distract.
4. Keep eyes on speaker and think about what the speaker is saying.

The teacher sets the stage for classroom listening by her own attitudes and/or actions. Children should be taught the following courtesies that will help both the speaker and the listeners:

1. Showing interest and good attitude.
2. Waiting for the speaker to finish before:
    a. asking questions
    b. expressing disagreement
    c. adding information

3. When disagreeing, it must be done in a polite manner.

Listening reinforces oral and written language in the following ways:

1. It encourages awareness of likenesses and differences in sounds, in words, and so forth.
2. It aids in developing correct language patterns through increasing sensitivity to words, phrases, and sentences that "fit together" well.

The following are suggested listening activities which may be among those used to reinforce oral and written expression: listening to directions, to environmental noises, to music, to stories, to reports, to talks, and so forth.

Oral Language

Speaking is more than saying words. It is oral communication, a bridge connecting words and ideas to people, places and things. In order for children to become good speakers they must have something to say and know how to say it. Experiences provide for enrichment of ideas and opportunities to learn forms of expression.

The extent of the experiential background and the ability to listen help to determine how well slow learners will communicate orally. It is impossible to talk even in simple sentences unless one has heard and understood the words necessary to express his ideas. As slow children learn to listen they begin to be aware of how words and sentences sound. As their experiences are enriched, more opportunity is provided for word meanings to develop. Since much of our language is imitative, it is important for children to hear correct forms. As exposure to good language increases, children should begin to speak more interestingly and more easily. By the time slow learners reach adulthood, oral language should be adequate for most situations they are likely to encounter in the community.

Since speaking is either a conversational or an audience situation, children need to be taught to speak with ease. Teaching children to evaluate their choice of topics and to plan a sequential presentation of ideas will facilitate this. Further steps include teaching the pupils to:

1. Enunciate clearly.
2. Speak loudly enough.
3. Keep voice interesting.
4. Use good posture.

The speaker and his classmates may gain from a well structured evaluation period following the presentation. There may be occasional instances when it will be preferable for the evaluation to be done through individual pupil-teacher conferences.

Some of the activities which teachers can use to encourage the skillful use of oral language by slow learners are:

1. Reporting individual and group experiences.
2. Interpreting pictures:
   a. Enumeration—naming objects, people and so forth, in a picture.
   b. Description—telling in simple sentences what the picture is about.
   c. Interpretation—seeing and reporting more than the picture actually shows, imagining the sequence of events which
      (1) lead up to the incident portrayed and
      (2) project into the future.
3. Retelling and/or dramatizing, in proper sequence, stories and poetry heard at school, at home, on radio, on TV, and so forth.
4. Dramatic play (primary pupils), sociodrama (intermediate and secondary pupils).
5. Reading to the group.
   a. to share information
   b. to prove a point
   c. to share an exciting part of a story
   d. to play-act stories
6. Singing and creative music experiences.

Reading

Reading is a third avenue of language communication. It is essentially "speaking written down" so that ideas can be communicated to and from people who are not in direct contact. In order to do this, reading makes use of symbols representing the spoken word. This additional factor makes reading more complex than speaking and listening, and explains why greater maturity, considerable depth in experiential background and reasonable facility with spoken language are required for successful performance.

Since reading has long been recognized as a difficult area of language for the slow learner, why is it given stress in today's special education programs?

1. The school situation demands it. Other children are reading. The slow learner expects to read, too, and should be helped to have this satisfaction when he has developed readiness and maturity for it. While this is important to the older elementary child, the ability to read assumes greater importance in terms of attitudes and self-concepts with the secondary group. To the slow adolescent, inability to read is viewed as one more indication of "difference" that **can** and **should** be avoided.
2. Community living demands it. The slow learner who is to be a sustaining member of the adult world **must** learn to read as effectively as is possible for him; he need not appear different from other adults in the community in this respect.

While most slow learners will not use reading as widely as many other adults, by the time they leave school they should have been helped to acquire sufficient skill to use reading effectively in the following ways:

1. **Protection**—for minimal safety in today's world.
    a. At home—labels on medicine, cleaning fluids, tags on electrical appliances, labels and signs on fuse boxes, gas and water meters, and so on.
    b. At school—safety signs around the school and school grounds.
    c. In the community—street and highway traffic signs, directional signs in and around stores, industrial plants and public buildings, and so forth.
2. **Information and Instruction.**
    a. At home.
        (1) Personal needs—reading relative to opening bank accounts, charge accounts, paying taxes, securing insurance, purchasing cars, furniture, appliances, and so forth. Reading newspapers for information about the community and the world.
        (2) Family maintenance—reading and following recipes, directions on canned, frozen and packaged foods, instructions for use of wall paint or furniture polish, for operating home appliances, following washing

and/or cleaning instructions for clothing, following directions left by doctor or public health nurse when a child is ill, and so forth.

b. At school. Reading assigned materials for directions and for information relative to science, social studies, math and other school subject areas, for messages from other pupils, other rooms, the principal, one's parents, others.

c. In the community.

(1) On the job—reading directions relative to filling out job applications, instructions and safety regulations around place of employment, (including written orders where job entails this); bulletin board information posted for workers, and so on.

(2) In connection with community activities — reading news, notices, announcements from churches, lodges, unions, community groups, invitations to parties, weddings, and so forth.

3. **Pleasure**

a. At home—reading newspapers, books, magazines, and TV captions to entertain self or others in the family.

b. At school—reading books and magazines to self and others.

c. In the community—using the library, reading posters advertising movies, sports events, and so forth.

Before any formal reading is attempted, an appraisal must be made of the child's readiness for this experience.

1. Is he developmentally ready in terms of physical, mental, social, and emotional growth?
2. Has he developed sufficient visual and auditory perception to underwrite reading skills?
3. Has he acquired sufficient language background to insure the securing of ideas from the reading experience?

Until all of these questions can be answered positively, teachers should not move beyond the readiness program.

As slow learners approach reading age, certain types of reading experiences should be planned for them. These experiences must be underwritten by a variety of materials:

1. **Experience Reading Materials**

In the beginning experience stories help to bridge the gap between ideas as expressed in language or through pictures and ideas expressed through symbolization. However, experience reading is **not limited** to use in primary classes; it should be utilized **throughout** the slow learning program, even at the senior high level where it may take the form of job analysis charts, directions for specific job areas, and so forth.

Experience stories are developed by the group or by individual pupils to record an actual experience. These may be recorded on charts, on the chalkboard, or in book form. In the early stages they represent "memory reading"; they give the children an opportunity to associate printed words with related ideas and to understand how printed words can tell stories. Later experience stories may be used as part of the advanced reading program. Illustrations should be used to reinforce the ideas related in the experience stories; pictures tend to make the material more interesting, also.

2. **Other Reading Materials**

   a. Informational Materials

      (1) Social Studies and Science Series. The information contained in basic social studies and science books and the sequence of presentation coincide to a high degree with the emphasis for the total curriculum of the special class pupil. This gives a reason for reading—an opportunity to read for information. Also, the general format of the social studies and science materials is usually more acceptable in terms of the social maturity of the children for whom this program is planned.

      (2) Children's Newspapers. Weekly periodicals such as the **Weekly Reader**, the elementary news magazines distributed by Scholastic and other similar publications afford the opportunity for slow learners to keep abreast of current happenings. These are graded in difficulty so that appropriate levels of material may be secured for reading groups within the class.

      (3) Newspapers. When children have acquired sufficient reading skill to be able to get meaning from daily newspapers, these should be introduced as an additional source for informational reading.

(4) Teacher Prepared Materials. Teachers need to prepare materials in addition to those obtainable from other sources. These should be used to reinforce concepts being developed in social studies, science, and so forth, and to supplement or extend information available from books and other media of communication.

b. Basic Readers

In general, basic reading series have not proven satisfactory for use with slow learners. They are planned to fit developmental patterns of average children, and thus move too fast for those whose growth is slower. While slow learning boys and girls generally go through the same steps and respond to the same methods and approaches as do other children, they need much slower pacing of work, lighter vocabulary load, more gradual increase of that vocabulary, and more repetition of new words in varied situations. Similarly, the presentation of word attack skills must be at a slower rate and comprehension skills developed as accurately as possible. Basic readers do not lend themselves to this slow progress.

Another problem that exists in the use of basic reading materials is the interest factor, since slow learners are three to five years older than the children for whom the materials were planned. From the standpoint of social development, slow learners are interested in the same things as other children their age.

In spite of these factors, there are times and places when it will be advisable to use basic readers in special classes at the elementary level. These are:

(1) to provide materials for a limited time for teachers who are unfamiliar with primary reading methods, so they can begin to understand and use the sequential steps basic to reading programs.

(2) to use selected stories which relate to units of work in science or social studies.

(3) to use as supplementary material.

c. Recreational Reading Materials

Children learn to read by reading. Only from experience with a wide range of interesting materials which they can explore on their own are children helped to discover that reading can be fun. This is as true of slow learners as of other children, and implies that time and materials must be provided for this purpose throughout his school years.

Fortunately, there are now available many well-written, colorfully illustrated books and magazines with limited vocabularies, but with ideas appropriate to the needs and interests of slow learning children. At all age levels they can find action stories, animal stories, "do-it-yourself" books which suggest intriguing science experiments to share with friends and classmates, tales about people, places, and things. Current book offerings open doors unknown to previous generations of slow children. They make it possible, indeed necessary, to consider the development of good room libraries in each slow learning classroom. Their availability also makes it possible for slow learners to enjoy the resources of both school and public libraries. This means children will need to be taught how to use the library and that planned visits for this purpose should be a part of the school program.

In the use of all these materials it needs to be kept in mind that certain steps are essential **in an instructional reading program and in all content areas** of the curriculum for slow learners at all age levels. These are essentially the same steps necessary for teaching reading to all children:

1. **Development of Background**—to relate story to the experience of the children.
2. **Presentation of Vocabulary**—to develop new words and their meanings.
3. **Directed Silent Reading**—to read for enjoyment and general content.
4. **Extending Skills and Abilities**—to reinforce skills and concepts that have been developed and to develop new ones.
5. **Re-Reading**—to develop and re-inforce comprehension skills.
6. **Oral Reading**—to develop the ability to read in a conversational tone; to learn to read to a group in a manner that will hold its interest.

Written Language

Written language is another important means of communication, transmitting messages from one person or group of people to another. It is the most complex of the four major communication skills. Yet, because slow learners, both as children and adults, will have need to use written language, it becomes a part of their school program. However, it must be emphasized that at all age levels in the slow learning program there must be **reasons** for pupils to use written expression, and that writing must be based on meaningful experience.

When the child begins to use writing as a means of communication, the first step may be to write his own name; his signature on a picture he has completed is saying, in effect, "I did this" or "This picture is mine." A parallel step may be the labelling of articles which belong to him—hat, boots, mittens—or things around him—desk, toys, books; through this means he is connecting symbols with ideas as well as beginning to convey ideas to his friends and classmates. Next may come captions for pictures; over a period of time he may be encouraged to make this "label" longer, so that it conveys a thought in sentence form. At about the same time the child may also begin to write his own experience stories, dictating to the teacher; later he may be ready to copy these for himself. Eventually he will reach the place where he can begin to write stories independently. These can be made more interesting and meaningful if the recording of personal experiences is accompanied by a drawing or other form of illustration.

This progression does not just "happen"; it needs to be fostered as the child develops readiness for each step. The teacher needs to watch for the following evidences of readiness for written communication:

1. Adequate physical, mental, social and emotional development. Forcing the child before he has sufficient maturity can do irreparable harm.
2. Experiential background sufficient to encourage and develop ideas. This should be incorporated in the development of oral language; children should be given many opportunities to talk about things they know, activities and interests they have shared, feelings they have experienced.
3. Ability for and experience in oral self-expression.
    a. Speaking clearly in sentences.
    b. Relating ideas in sequence.

    This, too, can be observed in what the child has to say in the school setting.
4. Indication by the pupil of a desire to write. This relates to writing down **ideas, not** to handwriting, per se.

5. Ability to dictate simple "stories". This again emerges during oral language work; it can sometimes be noted when the child begins to contribute to group experience stories, sometimes in the requests the child brings to the teacher for writing down his own ideas.

Among the activities which can encourage the development and use of written communication skills at all age levels are:

1. Writing plans for and reports of field trips.
2. Writing plans for and reports on social studies units.
3. Imaginary or creative stories—by one child or by the class.
4. A daily newspaper or class diary—so long as this remains spontaneous and interesting.
5. Developing or outlining questions which the group wishes to have answered about a particular topic of study.
6. Descriptions of happenings at home, at school or in the community.
7. Letter writing—for a variety of purposes; among which may be
    a. notes to sick classmates
    b. invitations to parents to attend school programs
    c. requests for permission to go on field trips
    d. "Thank you" notes following parties, field trips or other special events
    e. orders to mail order supply houses
    f. letters of application for jobs or job interviews
8. Written communication with another class.
    a. "Fun" booklets.
        (1) Original pictures—sometimes with captions or accompanying stories.
        (2) Original stories and poems.
        (3) Original songs.
    b. "Getting acquainted" booklets, which may include:
        (1) Class pages—snapshots and accompanying stories about school, school neighborhood, teacher, special class pupils, classrooms, and so forth.
        (2) Individual pupil's pages—snapshot, short story about self, to show personal interests in sports, hobbies, and so forth.

c. Community booklets:

(1) Short history of the town—interesting facts about its name, location, and so on.
(2) Recreation facilities.
(3) Ways of earning a living.
(4) Health and safety measures.
(5) People in the town.

The age range in the class and the needs and interests of the particular group will of course influence the kind and quantity of written materials produced in the course of any one school year.

Throughout the development of written communication skills care must be taken to emphasize **quality** of the work—neatness, legibility, accuracy. If the beginning experiences are paced to the children's developmental and experiential readiness, they can be expected to learn to make correct letter forms, to produce ideas in appropriate sequence, to spell the words they need to use and to produce a finished product in which they can take pride. In order to do this with an increasing degree of independence, children must be helped to check their own work; the following steps have proven helpful to many:

1. I think.
   a. What do I want to say?
   b. How can I say it in an interesting manner?
2. I write.
3. I check.
   a. For sequence of ideas and interest of presentation.
   b. For mechanics—handwriting, spelling, sentences, punctuation.
   c. For neatness—no erasures, even margins, and so forth.
4. I make corrections or re-write, where necessary.
5. I re-check before handing in the paper.

Given this or a similar kind of pattern, slow learners can develop sufficient skill to use language in meeting community requirements after they leave school. Most frequently these will be the writing of—grocery lists, time for appointment, relaying phone messages, personal letters, business letters, and so on.

In general, manuscript writing is necessary for use with slow learners all through their school experience. This is the functional kind of writing these children will have most need to use as adults: All of the various forms utilized by industry, government (income tax, post office forms, armed services, applications for car licenses, hunting licenses, and so forth) and the community require that one be able to **print legibly and fit printing into limited space.**

Although, aside from signatures, cursive writing is not necessary to meet community requirements, it may be that the children in the junior and senior high programs who are scheduled for other classes will need to use cursive writing in order to conform to the pattern expected from the regular students. Even at the elementary level, a few children will have been taught cursive writing before being assigned to special class; there is no harm in permitting them to continue using this part of the time, providing the writing is legible and that they are required to use manuscript often enough to maintain this skill.

In the beginning, writing should be on an individual basis, starting with the child's name. It should not be encouraged until the pupil demonstrates sufficient visual perception and muscular coordination to be able to reproduce letters correctly and to learn to space words appropriately. Neatness and accuracy should be required from the beginning; this should be true of **all** written expression and extend into all subject areas. Much of the time writing will be done on an individual basis; but there will be times when the whole class or a group within the class will be working to learn or to improve the same letter(s) and/or spacing.

Spelling begins at the point where the child begins to write, since he then needs a "spelling vocabulary" to use in communication. In order to be functional, it is imperative that the child not be asked to spell any word which he does not understand and which he cannot use correctly in a sentence or "story". Words selected for spelling should closely relate to other school experiences. At the secondary level they should include terms related to occupations and general community living, and also those the pupil is likely to encounter in shop, home economics and other related classes in which he participates with regular high school students.

Since eyes, ears and fingers are all involved in spelling skill, visual, auditory and kinesthetic approaches must **all** be utilized in teaching children to spell. Equally necessary is the teaching of a systematic method for studying, so that children may learn to work independently. While spelling workbooks planned for regular grades are not appropriate for use with slow learning children,[1] teachers should consult the basic spelling manuals to find suggestions for developing study habits. Whatever method is utilized, it should be used **consistently:** a long-term experience is needed in order for it to become "set."

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[1] For the same reasons as were discussed in relation to basic readers.

ARITHMETIC

Just as with other school subjects, arithmetic teaching must be geared to the development of the children under instruction. The slow learner is not ready for this experience as soon as are other boys and girls. He cannot progress as fast nor go as far. However, during his school years he does develop sufficient maturity to learn enough arithmetic to be functional in family and community life.

If slow learners are to realize their potentialities for arithmetic, three things must be kept in mind:

1. There must be readiness for the information being presented if understandings are to develop. This is generally recognized for the primary age child; it applies just as definitely to all age levels within the school.
2. Learning must be sequential, if children are to make sound progress. To insure this, the teacher of slow learners must be thoroughly familiar with the sequential development of arithmetic skills in graded programs throughout the elementary school,[2] as well as with the relatively few curricula available for the area of slow learning.[3]
3. Certain phases of arithmetic for slow learners, chiefly uses of time, money and measurement, may be more influenced by social maturity than by mental maturity. Specific social situations developing in the home, school and community require that these children function as nearly as possible like others of their chronological age. When the school can foresee these demands, it has a responsibility to help the child meet these successfully.

Children do not just "grow into" readiness for arithmetic. The formal instructional program must be preceded by many concrete experiences with numbers to help develop number concepts. These involve:

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[2] Teachers' editions or manuals from several of the leading book companies will give an indication of this general development.

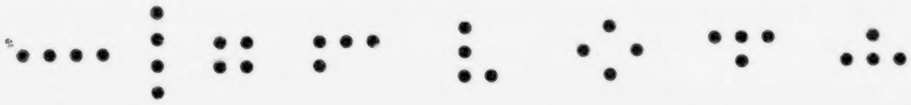
[3] Among those available at this writing are: **Arithmetic Curriculum for the Mentally Handicapped**, Dept. of Special Education, Cardinal Stritch College, Milwaukee, Wisconsin; **A Curriculum Guide for the Educable Mentally Handicapped**, Illinois Council for Mentally Retarded Children, 343 South Dearborn Street, Chicago, Illinois; **Arithmetic Skills for Living and Learning**, Dept. of Special Education, Pennsylvania State University, State College, Penna.

1. Form discrimination—geometric shapes.
2. Comparison experiences—matching, pairing and grouping objects in terms of size, shape and quantity.
3. Building a meaningful arithmetic vocabulary.[4]
4. Rote and rational counting.
5. Providing experiences that will prepare for the development of basic arithmetic processes.

It is particularly important that strong number concepts be established in the beginning stages of arithmetic development. A suggested sequence for this is as follows:

Concept to be developed:[4]

1. Grouping of **objects**—Child handles actual physical things. These may be objects around the room (4 books, 4 pencils, 4 toys) or may be block cubes, tongue depressers, and so forth. He has many experiences with many objects in many groupings, as:



2. Grouping of **pictures**—Child works with pictures showing groups of 4—4 birds, 4 kites, 4 kittens, 4 of many things. He works with these until he can recognize groups of four in several groupings or positions, and can recognize a group of four whenever he encounters it. At this stage he can begin to make his own number pictures through finding, cutting and pasting groups of four things.
3. Grouping of **symbols**—Child is given cards to work with which show groups of four circles, four squares, four triangles, in many different positions or combinations. Again, he can make number pictures for himself, by drawing and/or cutting and pasting, using the geometric shapes.
4. Attaching the **name** of the number to the number picture. This is done in two separate steps:
   a) First the word "four" is written under the number picture and the child is told that this is the number name.

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[4] See Table, p. 71.

He is given many opportunities to match the name to groups of four objects, four pictures, four symbols.

b) After he has learned to recognize and use four "the long way", the child is ready to be taught that "there is a shorter way to write four"; at that time the Hindu-Arabic numeral is introduced. Again, the child is given many opportunities to work with "4", matching groups of four objects, four pictures, and four symbols, and to use "4" as part of the label for his own number pictures.

The concept of **4** has been developed when the child can give evidence of accurate recognition, understanding and the ability to use either "four" or "4" in appropriate situations. A part of this understanding is the knowledge that "4" by itself has no meaning, but must always be related to or represent **four of something.** as "4 dogs", "4 pencils", "4 plates", and so forth.

In daily school situations children encounter situations where computational arithmetic is needed. When they have demonstrated beyond reasonable doubt that they can utilize concrete number experiences in grouping and counting, it is time to help them begin to formulate further understandings about number. The following steps are suggested as a meaningful approach to the fundamental processes:

(For the teaching of 3 + 1):

1. Have the children take a group of 3 blocks (sticks, balls, and so forth) and 1 block, then put them together to make 4 blocks.
2. Say, and have the children say as they manipulate blocks, **"Three and one will make four."** Let the children have many experiences with "three and one", utilizing objects, pictures, symbols—and encourage them to draw number pictures showing this.
3. Write, as children say and manipulate blocks. "Three and one will make four." Call the children's attention to the fact that this is telling what happens as they put the blocks together.
4. When the children are thoroughly familiar with the above, explain that number sentences can be written two ways:

   "Three and one will make four." (Long way)
   " 3 + 1 = 4 " (Short way)

5. When the children give evidence of understanding the above, show them "another way to write this":

Three	
and one	3
will make	+1
four (Long)	4 (Short)

Those children within the class who have sufficient maturity may wish to write arithmetic sentences to explain their own "number pictures."

After a child has learned all of the possible number combinations to five, through using the above steps, the same general procedure can be used in establishing addition facts to ten. Following this, the upper decade facts may be taught in the same way.

These steps, with appropriate changes in sentences or questions relating to the process, can be used to introduce the other fundamental processes. Learning will be stimulated and arithmetic will be more enjoyable for both teachers and children if approaches are exploratory, so that children can have the fun of finding things out for themselves. Lead children as they work with blocks and other manipulative objects, to experiment. What do they see? "How many **2's** are there in these blocks?" "Four has how many **1's**?"

Arithmetic in the elementary special classes should be concerned with the development of number concepts, arithmetic vocabulary and the ability to solve problems through manipulative exploration and the use of oral language before the use of written.

When these phases are emphasized with children in the lower mental age ranges, it then becomes possible for them to do more advanced problem solving as they mature.

Purposeful drill work should be introduced when children understand and recognize a need for it; it should also be used to reinforce learnings and to enable the children to use number information more effectively. Computational work should not be permitted to become merely a mechanical operation.

Throughout the entire school program for slow learners, emphasis must be given to those arithmetic experiences which are directly related to family, school and community living requirements. These will deal primarily with the use of **time, money** and **measure-**

ment, and the vocabulary needed to underwrite them.[5] Concepts and skills developed should be reinforced through relating them to these life demands.

If arithmetic learnings are kept functional, with problem solving constantly related to practical situations, and if the slow learner is taught where to seek help in more complex situations (such as filing income tax returns), the special class pupil can be expected to have enough background by the completion of his high school program to be reasonably independent in number use throughout his adult life.

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[5] See charts on pp. 72-79 for some suggestions in these three areas.

ARITHMETIC: LOWER ELEMENTARY
VOCABULARY

TIME
- today
- morning
- noon
- afternoon
- night
- evening
- day
- yesterday
- tomorrow
- minute
- hour
- week
- month
- slow
- fast
- year

SIZE AND AMOUNT
- big—little
- long—short
- tall—short
- large—small
- more—less
- many—few
- high—low
- all—none
- enough
- some

LOCATION
- under—over
- first—last
- middle
- high—low
- far—near
- bottom—top
- above—below
- in front of—behind
- beside—by—next to
- around

MEASUREMENT
- short
- long
- empty
- full
- pair
- cupful
- spoonful
- temperature
- freezing
- ruler
- yardstick
- pint
- quart
- half-gallon
- gallon
- thermometer

MONEY
- penny
- nickel
- dime
- buy
- sell
- spend
- pay
- price
- cost

COMPARISON
- younger—older
- fewer
- more—less
- larger—smaller
- taller—shorter
- longer—shorter
- straight—crooked
- curved

CONCRETE MATERIALS
- blocks
- pegs
- boxes
- baskets
- balls
- liquid measurement
- bottles
- cartons
- cups
- glasses
- linear measurement
- rulers
- yardsticks
- variety of objects
- jumping ropes
- educational clock
- thermometer
- coins—penny, dime, nickel
- calendar

ARITHMETIC

	UPPER ELEMENTARY	JUNIOR HIGH	SENIOR HIGH
MEASUREMENT	long-longer-longest ------	------	------
	short-shorter-shortest ------	------	------
	near-far ------	------	------
	heavy-heavier-heaviest ------	------	------
	light-lighter-lightest ------	------	------
	pound ------	------	------
		½ pound ------	------
		¼ pound ------	------
		ounce ------	------
	pint ------	------	------
	quart ------	------	------
	half-gallon ------	------	------
	gallon ------	------	------
	dozen ------	------	------
	½ dozen ------	------	------
	ruler	USE of ruler ------	------
	yardstick	yardstick, tape measure ------	------
		try square, T square ------	------
	inch ------	------	------

ARITHMETIC (Cont.)

	UPPER ELEMENTARY	JUNIOR HIGH	SENIOR HIGH
MEASUREMENT (Cont.)	½ inch --------	and ¼ inch --------	--------
	foot --------	--------	and ½ foot
	feet --------	--------	--------
	yard, yards --------	--------	and ½, ⅓, ¼ yard
	thermometer --------	--------	candy, meat, oven, clinical
	temperature --------	--------	--------
	warm-cool --------	--------	--------
	hot-cold --------	--------	--------
	freezing --------	--------	--------
	boiling --------	--------	--------
	degrees --------	--------	--------
		miles per hour --------	and speedometer, odometer
		height estimates --------	--------
		CONVERTING MEASURES --------	--------
		ounces to pound --------	--------
		inches to feet --------	--------
		feet to yard --------	--------
		pints to quarts --------	--------
		and so forth --------	--------
			ESTIMATES — About how long is this board?, etc.

ARITHMETIC (Cont.)

	UPPER ELEMENTARY	JUNIOR HIGH	SENIOR HIGH
MEASUREMENT (Cont.)			AVERAGES—What is meant by average height?, etc. SCALE DRAWINGS — in relation to rugs, placement of furniture, etc. DIAMETER—in relation to purchases (like pan cover, sink stopper, cake pan)
TIME	CALENDAR	CALENDAR	CALENDAR
	days of week ----------	----------	----------
	months of year ----------	----------	----------
	seasons of year ----------	----------	----------
	sequential relationships ----------	----------	----------
	today, yesterday, tomorrow ----------	----------	----------
	last week, next week ----------	----------	----------
	last month, next month ----------	----------	----------
		last year, next year ----------	----------
	birthdate—in relation to age	and: now ----------	----------
		last year ----------	----------
		next year ----------	----------
		years ago ----------	----------
		years from now ----------	----------

ARITHMETIC (Cont.)

TIME (Cont.)	UPPER ELEMENTARY	JUNIOR HIGH	SENIOR HIGH
			and age in relation to forms: work applications to enter armed services to get life insurance to apply for social security etc. WORK WEEK 40 hour week changing shifts
	CLOCK	**CLOCK**	**CLOCK**
	telling time ----------	----------	----------
	hour ----------	----------	----------
	half hour ----------	----------	----------
		to the minute ----------	----------
		second hand ----------	----------
		& concept of second ----------	----------
		seconds in minutes ----------	----------
		minutes in hour ----------	----------
		hours in day ----------	----------

ARITHMETIC (Cont.)

TIME (Cont.)	UPPER ELEMENTARY	JUNIOR HIGH	SENIOR HIGH
		reading Roman numerals on clock ------------	------------
	writing time ------------	------------	------------
		setting clocks ------------	------------
		and watches ------------	------------
	terms: A.M. & P.M. ------------	------------	------------
			daylight saving as it affects local time
	time in relation to daily activities ------------	------------	------------
			time clocks & use
		use of oven timer ------------	------------
MONEY	recognition and use of ------------	------------	------------
	common coins ------------	------------	------------
	penny ------------	------------	------------
	nickel ------------	------------	------------
	dime ------------	------------	------------
	quarter ------------	------------	------------
	half-dollar ------------	------------	------------

ARITHMETIC (Cont.)

MONEY (Cont.)	UPPER ELEMENTARY	JUNIOR HIGH	SENIOR HIGH
	ability to exchange ----------	----------	----------
	coins ----------	----------	----------
	2 nickels for a dime ----------	----------	----------
	10 pennies for a dime ----------	----------	----------
	1 nickel and 5 pennies for a dime ----------	----------	----------
	and so forth ----------	----------	----------
	recognition and use of common bills ----------	----------	----------
	$1, $5 ----------	and $10 ----------	and $20 ----------
	making change to:		
	$1, $5 ----------	to $10 ----------	to $20 ----------
	correct written form for dollars and cents ----------	----------	----------
	Examples: 56 cents, 56¢, $.56, $1.56 ----------	----------	----------
	practical uses of money ----------	----------	----------
	counting and checking change ----------	----------	----------
	bus fares ----------	----------	----------
	menus ----------	----------	----------
	school cafeterias ----------	and community cafeterias and restaurants ----------	----------
		sales slips, concept of ----------	----------
		banking, concept of ----------	----------

ARITHMETIC (Cont.)

MONEY (Cont.)	UPPER ELEMENTARY	JUNIOR HIGH	SENIOR HIGH
		savings accounts	-------------------------------
		checking accounts	-------------------------------
		loans	-------------------------------
		uses and values	-------------------------------
		family purchases:	-------------------------------
		food	-------------------------------
		clothing	-------------------------------
		rent	--------------- and meaning of term: lease
		entertainment	-------- on furniture ------------
			car
			TV
			public utilities bills
			installment buying
			taxes
			budgeting
			social situation: tipping, giving and receiving
			insurance: concept of kinds and relative values

ARITHMETIC (Cont.)

MONEY (Cont.)	UPPER ELEMENTARY	JUNIOR HIGH	SENIOR HIGH
	purchasing power ----------	----------	----------
	two for ----------	----------	----------
	expensive ----------	----------	----------
	cheap ----------	----------	----------
	and so forth ----------	and concept development ----------	----------
		related to quality of goods	
		and services received ----------	----------
			PER CENT
			concept in relation to usage

Social Studies.

Social studies, or the "science of learning to live with people" permeates the entire program for slow-learners and is the center of interest around which the rest of the school program revolves.

On the pre-academic and beginning academic levels, these interests are not noticeably different than those of other six, seven and eight-year-old boys and girls. School is a new experience which they are anxious to explore together. Each child has a home. They find out that homes are alike in some ways but different in others. Not all homes have the same number of rooms, the same kind of furniture; not all families have the same number of children; some families have several dogs and cats while others have no pets at all. Curiosity arises about different homes and different families and the children begin to find out many things: how people live at home, the contributions of different members of the family to work in the home, the father's work outside of the home, health and safety in the home, ways the family plays, how they travel to get to the movies or the ball park, care of pets, care of furniture (at the very elementary level which includes keeping feet out of chairs, not using a knife to carve the kitchen table) and so on.

If the class has a large room, they will enjoy "playing out" situations, as did Mrs. K's group. With the aid of large packing boxes which could be made into crude but sturdy furniture, they built kitchen, dining room and bedroom furniture sufficiently large and strong for actual child use. Folding screens, borrowed from the principal, enabled them to screen off each room. The elementary supervisor interested the PTA in supplying dishes and other accessories for housekeeping; and the children had many happy hours acting out, at the rear of their classroom, the things they were learning about home and family living. With these younger children, the usual social studies picture books and primers quite frequently fit well enough that they enjoy handling and discussing them.

At about the time that most children enter fourth grade, the special class and the regular classes come to a parting of the ways, so far as social studies are concerned. Nine-year-old Philip, entering fourth grade, will, in most school systems, encounter geography books which presumably take him on an imaginary trip around the world; theoretically, he has finished with his exploration of home and family living and acquired knowledge of his immediate neighborhood and the surrounding community. Nine-year-old George, in the slow-learning class, is **really** just now ready to embark on a study of the neighborhood. Up to this time he has learned to find his way to school, to church, to the ball park, to the movies, to the grocery store for his mother; but his over-all maturity is just now reaching the place where he is ready to find out all that is happening in these places; until now they have been just "places to go." Now he is curious. Where does the postman get all the mail he carries around? What does the librarian do on the days which are not "story-telling" ones besides sit and look at books and remind boys and girls to be quiet? Why do people have to be so quiet in a library, anyhow?

This interest in and study about the neighborhood—the larger community, and then the city—occupies the rest of the time that the slow-learner remains in the elementary school. In association with Philip and other faster companions, George may become vaguely aware of something called history or geography which he is missing; he may even "pick up" place names and some of the terminology his friends use—in much the same manner that preschool children during the recent wars learned to locate and chatter about the places their daddies were located; but he lacks the development which makes it possible for time and space concepts to evolve. Even when pressed to do so by parents and/or the school, George is unable to retain this information, and he will soon pass it off as unimportant to him. His program is not a flight of steps which he must climb, but an ever-widening series of circles, which encompass the same areas of learning with which he first became familiar—how people eat, sleep, dress, are housed, work, travel, communicate, play, keep well and keep safe—recurring each time at a slightly more mature level but always being sufficiently concrete that he can relate them to previous and present experiences. Field trips, the use of visual aids, school visitors, a wide variety of books used by both teacher and pupils, and a variety of related activities all serve to keep interest high during this time.

The opportunity to give the current happenings in social studies a slightly broader coverage comes in with older elementary groups as part of the morning discussion and planning period when newspapers, both regular and such children's publications as **Weekly Reader, Young America Readers** and weekly news magazines from the Scholastic Press at appropriate grade levels act as a connecting link between the children's experience and the wider world. As the children become past ten years of age and have more frequent contact with radio news programs, movie newsreels and news telecasts, they can also pick up current events through independent channels before coming to class which they may be able to discuss with enthusiasm and interest. This is particularly encouraged with junior and senior high school classes.

At the secondary school level, the circle grows as much wider as the abilities of the children permit and the demands of community living require. Attention is focused in the junior high schools years on the city and the larger community—the state; and while all areas with which the child has been confronted in the smaller "circles" re-appear, attention is focused more definitely upon the industrial community into which he, in a relatively short time, must go as a worker. What are the products of our city? What do the factories make? Where do they go? What do we have to get from the outside? How do we get them? Just as earlier he learned an interdependence between families, he now discovers that his city is a part in the larger "family" of city groups within the state and neighboring region. "Region" may not always include the whole state. In Columbus it would be natural to do this; but in Defiance and Toledo, more slow-learners are likely to come into contact with Ft. Wayne, Indiana and Detroit, Michigan, than with Gallipolis. To pupils in Hamilton, southeastern Indiana and northwestern Kentucky would be far more accessible than Cleveland; while those in Cleveland, Painesville and Ashtabula would have more in common with Erie, Pennsylvania. To Youngstown and Steubenville, Pittsburgh is "just next door," and in the latter city the hills of West Virginia lie just across the river, as they do from Ironton. This amount of detail is given to emphasize that whatever geography and history are taught to slow-learners needs to be "close to home" and centered around or taught in relation to things they can understand—**people, places and things.**

Since choice of topics is usually less definitely assigned than in the regular grades, the teacher of slow learners has a responsibility to set criteria for choices. She needs constantly to ask herself:

1. Am I selecting and teaching the **most important things** to my pupils in terms of:
   a. Their mental and physical maturity?
   b. Their social and emotional development?
   c. Their life needs—present and future?
2. Is this information interesting to my pupils and is its usefulness clear to them?
3. Is **now** the most advantageous time to teach it?
4. If it is, do my pupils have the readiness (knowledge and skills) to underwrite it?

These questions take on greater meaning as the pupils reach the secondary school. The senior high school years afford the last opportunity to give these adolescent slow-learners the equipment with which to make life adjustments in the community. Not all of them are "ready"—nor will they ever be—for actual comprehension of national geography; but the circle must be widened at those points where lack of knowledge may point them out as "different" later on. These children are past sixteen years old now; in a short time they will be twenty-one, with the same right to vote as all other people. So, in as concrete a way as possible, they need to be taught the meaning of voting, why it is important, how it is carried out.

They need to be taught about taxes; in a very short time they will either be paying taxes (if we have been successful in training them to get and hold a job) or supported by taxes (if we have failed). "When do you pay taxes?" "Why do you pay taxes?" "What do taxes do for us?", are questions that need to be answered in terms of local, state and federal requirements.

Driver-training education, where obtainable, should certainly be a part of the senior high program; a number of these people, especially the boys, will be behind the wheel of a car or a truck, before long; our own safety as well as theirs may depend upon how they learned to drive.

In addition to the above items, and other things which the teacher of these pupils in the high school will recognize as essential learnings before the boy or girl leaves school, relatively more emphasis is given to specific job areas, to training in the general skills adaptable to these jobs, to learning how to spend money more wisely than their parents, and to learning to evaluate themselves as people and workers in the community. A complete **program includes on-the-job training, under school supervision and on school time, carried out in a manner comparable to the program of distributive education for the "regular" high school student.** Such a program can have important implications for community appreciation and understanding of the school's program for slow-learners, particularly for the employers. By the time these boys and girls graduate from senior high school, the kind of a social studies program with which they have been presented should make it possible for them to make as good an adjustment in the community as any other high school graduate.

Occupational Training

Actually, the occupational education part of the slow-learning pupil's school experiences is not a separate item, but an integral part of the social studies area. However, since "occupational education" has become a term to be used, frequently too loosely, by those who have a vague notion that it has something to do with "putting kids to work", it will be treated independently here.

Had you wondered whether there is any responsibility for occupational education during the elementary school years of the slow-learner, or have you assumed that this was an area confined to the secondary schools, as vocational and commercial training are for regular students?

A very important contribution is made during the elementary school years: Work habits and attitudes are built a little at a time, and occupational education in the secondary school depends on a solid foundation laid during the elementary school years. Frequently such things as work habits and personal appearance are the determining factors in the ability of the slow-learner to get and **hold** a job. These are the kinds of things which can mark him as a responsible member of the community—or an irresponsible one.

Perhaps because they are so very conscious of the importance of such things as punctuality, ability to follow directions, responsibility for following through on a particular job, many teachers—in their anxiety to develop these habits—forget that there must be a readiness for them, just as there is for the academic subjects. When one considers the rate of development of understandings in the slow-learner, it is easy to see why the capacity for certain responsibilities comes later with them than with most children.

Consciousness of time is basic to punctuality. Until the child is able to tell time for himself, he must depend upon someone else to carry the responsibility of getting him to school by 8:30 or 9:00 (or whatever the hour is in his school district). Until Leo's teacher understands this simple fact, she is unable to curb her annoyance at his constant tardiness; to 9-year-old Leo, with an I.Q. in the 60's, "time sense" is pretty vague; even if Mother starts him to school with a sufficient amount of time to get there, something more attractive—like a shiny new bicycle in the window of Mr. White's store, or the excitement of a Diesel engine pulling a line of sleek aluminum cars across the State Street bridge—may delay him until he hears the ominous sound of the "last bell." When Leo grows up enough that he learns to get to school on time, instead of hearing that last bell when he is still a block away from the schoolhouse, he will be ready to start building the habit of punctuality which can keep him from being "docked" for tardiness as an adult worker on the job.

Catherine, almost eight, has begun to ask that the children play "Looby Loo" during the musical game period. A short while ago Catherine disliked this particular game; but now she is not confused by the direction to "Put your **right** hand in" or "your **left** foot out." Similarly, she is beginning to know what it means to "cut **on the line"** and to keep her coloring **"inside** the lines." When Catherine learns to follow these simple directions she is already on the way to being ready to take directions from her employer in the years to come. Following directions is an ability which comes **very** gradually and must be taught.

In the same way, when Fred learns that having his hair combed is more acceptable to his teacher and his classmates than having tangled hair, he is acquiring a kind of personal appearance standard which can later help him understand that a neat appearance is more acceptable when applying for a job than is a "sloppy" one. And when Leslie and Bernice learn to care for the tools and industrial materials in school, they are more likely to care for the equipment necessary to carry on their jobs in the working world at a later date.

The general social studies part of the curriculum makes a definite contribution to occupational understandings:

Let us look, just for a moment, at the beginning social studies interests in the elementary special classes. What is there in the general study of home and family living that might be related to occupational education? There is Mother's work around the home and the contributions of other members of the family towards care of the home. There is Father's work, usually away from home. And the children discover that different fathers do different kinds of work: Milton's father is a section hand on the railroad; Alfred's father works at the chair factory; Nancy's father drives a truck; Richard's father works at the box factory. Another relationship comes into the picture when Sylvia relates that her mother works at the box factory, too; that means that sometimes the mothers work away from home as well as the fathers. Do you see in these discussions the beginning of something which points toward occupational education?

The children take a look at the different things people do at school. Boys and girls, teachers, principals, custodians, secretaries, school nurses, and cafeteria workers all have different kinds of work to do. Again, here is a picture of occupational activities, some of which, possibly those of the cafeteria worker or the custodian, can be pointed up later, since they represent areas in which these children might function as adults.

As the children grow older and become acquainted with their neighborhood, there are many kinds of work which can be noted. Some of the children in the group are likely to know people who work in the stores, at the post office, at the fire station, at the library, church, theater, open-air theater, ball park, golf club, swimming pool, local shops and factories. Some of the children may be sufficiently mature to recognize that certain jobs, such as those at the swimming pool and golf club, are largely seasonal, while others last the whole year around. At a later age some of the jobs in these places may be studied, as jobs; but in the elementary school years the children are getting a kind of "bird's eye view" of things which people in their community do for a living.

Even in the elementary school years a few of the more mature children may be able to differentiate between some of the jobs done. For example, the children in Miss A's class went for a walk to see how the men were building the wing on the high school building. To Charles, the youngest in terms of development, the only thing that was evident was that the men were digging a big hole with a big shovel that made a noise. Billy and Dick, the most mature in the group, were able to project their thinking to the kinds of work to be done if the building were to be ready when school opened the next September. As workmen necessary to finish the job, they listed not only the laborers who were digging and operating the power steam shovel, but also: carpenters, plumbers, painters, plasterers, bricklayers and electricians. Charles is still able to think only of the "present," the obvious; Dick and Billy are beginning to realize and visualize a particular job as a cooperative venture requiring many kinds of workers.

In the junior high school years greater emphasis is placed upon the importance of jobs. By that time many of the children have become aware that work is an essential part of living in the adult community, if one is to "fit." Most boys and girls of this age, while interested in jobs, see adult employment for themselves as a long ways off, as yet. Still they are interested in the work of others, and thus a survey of jobs in their local community can easily become a part of their curriculum at this time.

The range of such a survey will vary in accordance with the size and type of community. Mrs. E's class live in a large city; a study of all the thousands of kinds of jobs carried on there would be impossible, so she narrows her emphasis to center around those industries and jobs where there may be a possibility that the children will later find employment. She works very closely with the other two special class teachers in her building, so as to avoid duplication of study; and she contacts the special teachers in the senior high school to learn where their boys and girls are actually being placed, so as to keep her survey as realistic as possible in terms of probable future needs of the class.

Miss J. teaches in a village where the whole available job area is encompassed by a machine shop, a pottery, a cigar factory, eight to ten stores, two filling stations, the post office, county court house, fire station and county children's home. These offer job opportunities for everyone—and her slow-learners, as adults, must compete with other graduates from the local high school for a place in these few jobs. Accordingly, she will spend relatively more time with her boys and girls discussing actual work operations which jobs in the range of their capabilities entail than Mrs. E. will find necessary. She will also take time to consider with the children work done on farms in the nearby vicinity, since there are still some things done by hired hands—and tenant farmers—which can be done successfully by slow learners.

In the study of job areas as it is carried out in the junior high schools, excursions play an important part. Mr. T's boys went to a local garage last week; they saw many kinds of repair work being carried on, and the mechanics explained to the boys what they were doing. Later the boys will return for a second visit, when they will observe more closely certain specific jobs: the men who wash and wax cars, those who are lubricating cars and changing tires. During their senior high school years these boys will have several visits to watch specific operations, and one of them may have job training, when he becomes a high school junior or senior, as maintenance man in that garage.

Mrs. W. took her boys and girls to visit a local hotel. They were shown many kinds of work being done there. On their second visit, the group divided; the boys were shown the work of the bell boys, bus boy in the dining room, and several other comparable jobs; the girls followed the work of the maid on a second floor, the waitresses in the coffee shop, and other appropriate jobs. Last week Joe came into class quite excited one morning; his sister, Velma, in the high school class, was to be tried out as a kitchen assistant in the hotel, and that was one of the jobs they had seen when they were down there.

Additional experiences may be brought to the group by workers from the community who come in to discuss their jobs with the class. This will supplement what the children learn on industrial excursions or may replace trips in cases in which an excursion is not feasible. Mr. J., who repairs shoes, Mr. D., who paints houses, Mrs. T., who prepares vegetables for the hotel cafeteria, Mr. L., who refinishes furniture, have all visited Mr. N.'s class and talked with them about their work.

Moving pictures, film-strips and slides of various jobs can be helpful at both junior and senior high school levels. For example, Mrs. R's boys and girls live in the tomato-canning area of Ohio; watching a film strip of tomatoes being raised, picked and canned—followed by a discussion of the pictures—can supplement their actual visit to the canning factory where several of them have relatives employed. On the other hand, tomato canning would have relatively little appeal in the part of the state where Mr. M.'s children live; but with his class he could make practical use of films dealing with work in steel mills, coal mines and potteries.

In the special class in the senior high school, job areas are narrowed down to those which seem reasonably within the capabilities of the pupils and within employment possibilities in the particular locality where the pupils live. For the major industries, these will differ in different parts of the state, since Ohio produces a wide variety of industrial goods. Teachers may be somewhat surprised to learn that the majority of the jobs which these slow-learners actually get are not in these major industries—except in times of stress, such as the recent wars—but in the service jobs found in practically every community. Occupational training, then, concentrates not so much on the specific job, but on a group of somewhat similar jobs; emphasis is given to the amount of academic skills needed (for following directions, job vocabulary, recognizing safety procedures), industrial skills needed, work habits and attitudes, and practice—either in the school or on-the-job under school supervision. For this part of the program, relationships need to be worked out in advance with the prospective employers. There is also a need to interpret the program to local unions.

The most successful work experience programs exist in places where one person is appointed as coordinator. In districts where the number of pupils on work experience is too small to make this administratively feasible, a special class teacher is given release time to supervise pupils on the job. In such instances, the principal has a responsibility for scheduling younger pupils in a multi-graded group to their non-academic areas while the older ones work in the community.

The pattern of work training programs differs markedly from community to community within Ohio and in other states. The most realistic of these programs is the one originating in Lansing, Michigan and copied by a number of other communities, chiefly in Michigan and California. Here high school entrance is timed so that the pupil will reach the appropriate age for full-time community employment by the time he is a senior.[6] His first out-of-school employment, as an eleventh-grade pupil, is for ½ day, allowing the other half day for school. His senior year is spent **entirely** on the job, working a full 8-hour day as do other adult employees, returning to evening school one or more nights per week for study related to his job training and his responsibilities as an adult citizen. The full year of employment gives a more complete picture of the slow adolescent's ability to function in a job setting than can any other type of organization. It proves to be a very difficult hurdle for some young people who might otherwise graduate,[7] but this very fact lends status to the course and indicates that slow learners have respectable standards for graduation.

While the full year of supervised on-the-job training is the pattern the Division of Special Education would prefer to see adopted, it does recognize others:

1. **Co-operative plan,** where matched pairs of students cover a full-time job. Under this plan one pupil works full time for a specified period while his "double" goes to school; at the end of the co-op period the two exchange places. In some school districts the co-op period is as short as two or three weeks. With all of the adjustments to be made in both school and work situations, it would appear that for slow learners the co-op period should last not less than six to nine weeks if maximum benefits are to be secured from the experience.[8]

2. **Half-day school attendance, half-day work.**
   This is the easiest program for the school to administer

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[6] This must be 18 years of age, if the young person is to:
a) be sufficiently mature to carry adult responsibility on the job
b) meet the requirements of all jobs offered by interstate-commerce regulations

[7] Some have needed as much as three years to meet this one final requirement.

[8] Both Dayton and Cincinnati are currently utilizing the cooperative plan. Since the methods of operation differ in the two cities, school personnel wishing to get a picture of this plan would do well to contact the job coordinators and Directors of Special Education in both districts.

but is less acceptable to the employer who has a full day's work to be done. This is also less realistic for the slow learner; often a slow boy or girl can maintain efficiency on a job for 2½-4 hours but cannot continue to do equally well for a full 8 hours.

3. **In-school work assignments.** For a beginning period, while the program is developing, certain possibilities can be worked out in the school, itself. For example, in Mr. L.'s class, several pupils—both boys and girls—are employed each day in the school cafeteria. Mr. L. keeps in close touch with the cafeteria manager, so that if problems arise they can be worked out on a cooperative basis. The boys in Mrs. M.'s class are "assistant janitors"; their teacher and the school custodian have worked out a training program so that the boys in that class can get practical work experience in caring for a building and in doing yard work.[9]

These jobs present practical problems from time to time with which the other children can help to deal. They offer the school an opportunity to do some constructive work in planning within the school and the community. It must be emphasized that **this is only a stop-gap procedure:** it would not be realistic to think of this as a total work experience program for the following reasons:

a) It is generally impossible, unless one goes to actual paid employment in the maintenance and foods service departments in the larger school systems, to duplicate an actual working situation for more than hour at a time. This does not give the pupil a true picture of a full work day, nor does the school get a real view of the pupil's "staying power" as a worker.

b) It is seldom possible to find enough actual jobs for an entire group without developing an artificial situation. "Made work" is not good enough to be a training situation.

c) So long as pupils work only for teachers and school personnel there will exist the problem of realistic appraisal. Teachers have experience with academic programs and many have training and experience with child and adolescent development; few have had contact and experience with the business world. While they may (and should) do an ex-

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[9] In this particular instance, both the janitor and the teacher contacted a local union and explained what this training work entailed and why it was necessary. Not only did the union grant permission for training, but members of that local group have helped to find jobs for two of the boys who have finished school since this plan was initiated. It may also be mentioned that care was exercised in setting up this plan so that the slow-learning pupils would really be given **training.** Without careful planning this sort of thing could become exploitation.

> cellent job of appraising slow learners within the school setting, they are less able to see and judge these boys and girls in terms of employability skills required of young adults.

Work experience within the school can serve a real need if it is organized, in both junior and senior high school, as a **preparatory** experience for work outside or as a **supplementary** experience for classwork.

For example, in one city the slow learning girls who are studying child care are given a six-week experience, one-half day, as kindergarten assistants. In order for this training to be helpful to the girls, the kindergarten teachers and special education personnel plan a sequence of responsibilities for them. At the end of the experience the kindergarten teachers evaluate the girls; the girls are also asked to evaluate the assistantships.

Whatever type of organization is used, where job experience is set up as a part of the regular high school program, the pupils can be encouraged to bring to the group problems which they encounter on the job. One high school class has a period each morning when such problems may be "aired" and the class is encouraged to think in terms of what may be done by the employee to better the situation. Frequently the pupil who brought up a particular problem for group discussion is helped to see that he was partly responsible for his own difficulty. The teacher has a responsibility to guide such discussions so that they remain as objective as possible; when they are so guided, it is often possible for the class group to be more critical—without being unduly severe—of an individual's behavior on the job than the teacher, herself, could be; there is a "give and take" among the pupils which permits a readier acceptance of criticism.

Another important contribution to occupational training can take place in the classroom: Since we know that slow-learners need to be specifically taught a number of things which other pupils, supposedly, pick up without training, it is well to provide these senior high school pupils with a picture of jobs as they look from "the other side of the fence". They can be better employees if they have a general idea of problems which their employers have to face and if they have rather specific information as to what employers expect of them. Miss K. makes a practice of bringing her class into contact with some employers in her community: Mrs. W., who employs girls to help her in the alterations department of a large clothing store, visits the class and talks about the work of her assistants. Mr. R., who needs men to handle railroad freight, talks about the responsibilities of men who work for him. Mr. O., who raises peaches, comes to class and talks over the problems which men who work in his orchards encounter and what it means to him—in terms of loss of fruit and loss of money—if the sprayers, pickers, or any of the rest fail to carry out their duties properly.

In addition to knowing job requirements, the academic work related to occupational education includes training in simple budgeting, simplified consumer-buying and similar information which slow-learners are likely to need when they leave school. Much of this information is covered in the social studies and arithmetic periods in the senior high school slow learning classes; some items may be handled in the English (or reading) period.

Information about agencies which can assist slow learners after school years are over should also be given during the academic part of the high school's program. Two which may have particular value in terms of economic self-sufficiency are the Bureau of Vocational Rehabilitation and the Ohio State Employment Service.

Close, long term working relationships should be developed with the Bureau of Vocational Rehabilitation which has as its goal the preparation of the vocationally handicapped worker for employment. The Bureau has a legal responsibility for many slow learners (I.Q. 50-75) under its assignment to the mentally retarded.[10] Since its counselors are accustomed to work with regular high school guidance counselors, they may not be aware of the slow learning program within the school unless the superintendent[11] seeks their services. There are some distinct advantages to be gained from joint planning and programming by the schools, Bureau of Vocational Rehabilitation and the pupils. Among these are:

1. **Advantages to the Schools**
   a. Explanation of services to professional personnel working with slow learning pupils and to pupils, themselves.
   b. Supplementary counseling and guidance with reference to appropriate work goals for slow learners as individuals and as class groups.
   c. Information which can extend and improve:
      1) Work-experience training opportunities in the community.

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[10] Bureau of Vocational Rehabilitation also handles many other handicapped groups.
[11] or a person designated to act in his stead.

        2) Placement possibilities for more permanent post-graduation jobs.

    d. Supplementary services to those few who need more help or longer-term training than school can provide before graduation.[12] These pupils would become direct referrals to the vocational rehabilitation counselor and, if accepted on his case load, might receive any or all of the following services:

        1) Medical diagnosis.
        2) Psychological evaluation—ONLY where there are no local school psychological services to carry this responsibility.
        3) Physical restoration—ONLY where this appears to relate to employability.
        4) Vocational testing and work evaluation.
        5) Training in an appropriate situation, on the job or in a formal setting.

    Counseling and guidance is the main service; others, where added, are designed to implement employability.

2. **Advantages for the Bureau of Vocational Rehabilitation**
    a. Acquaintanceship with potential clients before need arises for direct service.
    b. Access to school records—health, academic, psychological—to hasten processing of referrals and assist in determination of need for direct service.
    c. Better selection and balance in types of referrals as schools learn more about joint responsibilities of the two agencies.

3. **Advantages to the Slow Learning Adolescents**
    a. Experience with and knowledge about a resource open to them as adults, should they need employment assistance.

A shorter time would be needed to acquaint the pupils with Ohio State Employment Service, since its primary function is placement rather than rehabilitation. Pupils should be introduced to a staff representative so as to have a direct contact,[13] should visit the office to become familiar with its procedures, and should have practical experience in filling out the required forms.[14]

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[12] Time and staff limitations restrict the amount of such direct service. Schools should exercise caution in the selection of such referrals. The local Vocational Rehabilitation counselor should be consulted as to the number and types of such pupils as can reasonably be handled before any referrals are made, since he knows the resources available and the case load for all types of handicapped adults in the area.

With most pupils in school, it is assumed that the school's responsibility ends when graduation arrives. This is not true with the slow learning pupil. Despite the most careful preparation on the part of the school, there are bound to be difficulties which the slow learner encounters in his working relationships on the job and other experiences in the community which the school has not foreseen. Most of these problems are minor ones, such as knowing that even if Jack and you had a fight last night, you have to forget it this morning if your job requires that you unload the same freight car. These are the kinds of adjustments which most older adolescents have learned to make for themselves—and which the slow learner, given sufficient help, can eventually learn to make for himself. The first year out of school and at work in the community is a crucial adjustment period. In recognition of this, some communities are making plans for supervision of these pupils—so far as work relationships are concerned, particularly—during the first year after they leave school. Preferably this contact is kept by the work experience coordinator who has first hand knowledge of the pupil's personality, his potentialities for adjustment or maladjustment. In a small school system where the teacher must carry responsibility for job coordination, he will be the person who also follows the pupil following graduation. Again, this is not a responsibility for the school to assume alone; wherever a young person is in trouble, job-wise, he should be helped to make contact with Vocational Rehabilitation and/or the Ohio State Employment Service, as mentioned previously.

Science

We live in a world in which science plays an increasingly bigger part with each passing year. Slow-learning children cannot escape from it any more than other people; a knowledge of very elementary scientific principles is necessary both for successful community adjustment and for satisfactory performance on the job. For example:

> Robert is working for a farmer this summer; he likes the work and would like to continue it after he leaves school. Will he be a better hired man if he knows something about

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[13] The school must make initial contact and explain the type of pupils with whom they are working. Generally the office will choose to assign responsibility for this group to one worker.

[14] These can be secured in advance for use in English classes. This permits interpretation of vocabulary and requested information.

the feeding of the stock, the protection of animals, plants and farm equipment in time of storm, and knows about frost and frost damage? Will it help if he can distinguish weeds from cultivated plants, recognize plant pests and know a little about pest control?

Karen expects to be married after graduation. Will it matter to her as a homemaker that she knows how to repair the cord on an electric toaster or iron? that she has learned not to leave uncovered food or crumbs in the open as an invitation to mice and cockroaches? that she knows how to guard against moth invasions among the blankets and winter woolens?

Mary is interested in laundry work. Does it help for her to know a little about the various soaps and detergents on the market, and how they may best be used; to understand somethings about the fading qualities of bright blues and greens when exposed to strong sunlight; to know why dark and white clothes are not washed together in the same machine; to know what fabrics may be bleached and which may not; to know the temperature at which different fabrics (wool, cotton, linen, rayon, silk, nylon) may be ironed; which fabrics should be dry cleaned?

Arthur was very unhappy when he came to school one morning. He lost his job as delivery boy for a local hardware store, and he didn't understand why; something had happened to the truck, and he was being blamed for it. That afternoon when Arthur's class was dismissed, Mr. N. went to see Mr. Stone, for whom Arthur worked, to see what might be done to iron out the situation. He found the dealer quite upset. Careless, that's what that boy was, burned out the clutch and ruined his truck! What had happened? In making his deliveries, Arthur came to a grade crossing halfway up a hill and had to wait for a freight to pass. He knew he could hold the truck on the hill with either the clutch or the brake, but he didn't know that it made much difference which—and he chose to use the clutch! (Since then, Mr. N.'s science course incorporates some work on friction!)

In the special class in the elementary school where direct relationships can be seen in a general topic, it will be helpful to teach science in connection with the social studies unit being studied. There are certain topics, however, that the teacher will develop at an appropriate time, whether or not they relate to current social studies areas. Among these are such information as: the weather, the seasons, migration of birds, falling and budding of leaves, hibernation of animals, health, personal appearance, personal cleanliness, safety.

Many times questions raised by the elementary children during class discussion will initiate further discussion, reading and experiments. The following, which have been heard in Ohio classes, illustrate the range of possibilities:

> Why do we have just milk in the cafeteria? My mom lets me have coke at home.
>
> Where were all those big birds (geese, flying south) going this morning all in a bunch?
>
> How do the plants drink all that water Jean gives them every morning?
>
> What is fluorine treatment? Why is the dentist going to do that to Linda? Does it hurt?
>
> How come the tadpole looks so funny? His tail's shorter, and he's fatter, and his head's getting like a big bump!
>
> Will the goldfish die if we take him out of the water?
>
> Why doesn't the airplane fall right out of the sky up there?
>
> Frank's got a funny stick thing (magnet); what makes it pick up pins and things like that?
>
> When you run into a car like Bobby did, does it hurt or does it just knock you cold so you don't hurt until you wake up?

The objectives of science in the secondary school classes are pretty well defined in terms of the living and occupational needs of the children. The approach to science with those children in the teen age period is largely one in which they have an opportunity to observe "what happens when":

> it rains (slippery streets, wet car brakes, cuts, gulleys—soil conservation, fills, reservoirs—water supply, etc.)
>
> it freezes ("breaks" in railroad rails, cracks in hard-packed soil, water pipes burst, parts of motor crack)
>
> a house is not painted (weathering)
>
> food is not protected from spoilage (potatoes and onions sprout or rot; bread and cake mold; butter and fats go rancid; milk curdles)
>
> electrical outlets are not properly wired (fire hazards)

This builds the background for understanding some of the processes to counteract or avoid such problems; for example, pupils learn how to keep food **from** spoiling, and the advantages of drying, freezing, canning, refrigerating, and so forth.

The presentation of a science problem to a group of slow-learners is always a practical one. In the fruit handling area of Ohio, for example, it would be important to know something about the bugs and molds which may infect peaches. While that is common knowledge that many people living in that area would "pick up," the slow-learner is not likely to learn it unless definitely taught. In the same way, the average high school boy who goes rabbit hunting has learned that you wear gloves when skinning a rabbit—and why; the slow-learning boy must be specifically taught this.

It is advisable to make sure there are reference materials within the junior-senior high school classrooms to refer to when a question arises. However, at the secondary level it is also necessary to work with basic science books and materials.[15] When slow learning children reach the junior-senior high years, there must be more definite sequence and structure; time is too brief to depend upon incidental learnings.

If workbooks are desired, it would be preferable for them to be notebooks written cooperatively by the class or by committees within the class, reporting actual experiences carried out by the children; these should be written in the pupil's own vocabulary.

In actuality, the science program should attempt to give the slow-learning pupil the kind of experiences in school that will give him a practical understanding of the scientific facts and their applications that **he** will find useful in the kind of world in which **he** is going to live.

Recreational Activities

In many programs of education for slow-learning children one encounters considerable concern for occupational training or the kinds of experiences and knowledge that prepare the individual for a measure of success as a worker. The adult slow-learner will have another strong need to which less attention has sometimes been given: The slow-learner will have leisure time to spend, too frequently "time on his hands." The richness or poorness of his life will depend as heavily on his use of this leisure time as upon his success as a worker. The well adjusted adult works; he plays, too.

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[15] **Basic Materials List** is available from the Division of Special Education. It gives suggestions for this and other academic areas.

What activities can the special classes for these boys and girls carry on during their school years that will enable them to adjust in the adult community when they have this free time? Art, music, play activities are among those which can prepare these people to be a part of the group at the Y, at the lodge, or wherever they chance to meet people socially. Occupational skills prepare the worker for adjustment in the factory; recreational skills can fit him for a measure of success outside the factory.

How much of these activities—and what kinds of play, music and art—should the school provide for slow-learning children? There can be no single answer; the teacher must use judgment in deciding these things for each child. She should know, for example, that while Irving, with poor vision and unusually poor coordination, should be encouraged to participate in some play activities with the other children, he should not be pushed into competitive athletics. On the other hand, Tony, whose interest in athletics is high and whose coordination is as good as Irving's is poor, might utilize competitive sports as a way to gain status for himself and for his class; he should be encouraged to try out for the football or basketball team when others in the school compete. In the same way, Mary Ann might be encouraged to try out for the glee club, while Frances, who could not hope to sing that well, could enjoy music activities with her own class. Norman might exhibit sufficient art interest and ability to enable him to work satisfactorily with a regular art class—even to have a picture or two in the school exhibit at the close of the year—while his friend, Kenneth, can only fit into the general art program of the class.

Play fulfills an important role in the education of slow learners because it offers another way for developing:

1. the ability to get along with others,
2. the ability to understand and follow directions, and
3. the coordination necessary for play activities.

From the time slow learners enter the special program until they leave it, these habits, attitudes, and skills should be stressed. This is important because they have implications for personality development, social acceptance, and skill operation in group situations for the pupils now and as adults. While directions must be given in language appropriate to mental growth, the play activities should be more directly related to physiological and social growth.

As far as possible the slow-learner will participate in all regular play activities of his school group. The teacher of slow-learners will be concerned with giving her class the kinds of play experiences that will enable each child to join more and more with the regular group on the playground and in the gym. By the time he reaches the secondary school the slow-learner should be able to participate in the regular physical education program with his age group, and certain ones—like Tony—will be able to enter competitive sports.

Play is important because such activity has inter-relationship with other areas. Play may reinforce specific interests and activities as health, music, art or language arts. The resourceful teacher will find many ways of using these inter-relationships.

It is good when the child feels like singing. It is good when music filters into his legs and arms and feelings—possibly through singing games, folk dances, creative rhythms. The slow learner can have fun with music; he learns to sing, to play rhythmic games, possibly to make his own instruments for the rhythmic orchestra. As he grows a little older, he can enter into musical activities with other children in the school. If he has sufficient ability, he may, by junior and senior high school years, become a member of the glee club, the band or the orchestra.

It is fine that Paul feels like modeling with clay during the free activities period. Already Paul's clay animals have been on display in a hall show case and other children have come to tell him how much they like his work. Normally, individuals attain status through their achievements—one on the football field, another in the concert hall, a third, perhaps, in the scientific laboratory. With the slow learner, status in school and in the community comes in the same way—through achieving. Paul's clay horse in the glass case in the school corridor can mean quite as much to Paul as a picture hanging on the wall of an art gallery means to the artist; in either case it is the feeling of satisfaction that comes from looking upon a piece of finished work and observing that other people stop and look, too.

It is relaxing for Mary to pick up paint brush, and daub happily, singing as her picture takes shape. Art, like music and other recreational activities, should be felt inside the child.

Mary's brush work—splashes and daubs without regard to color tones or definite shape—are comparable to the art activities of the normal child in kindergarten and first grade. By second grade there are some things—some strident, clashing colors—which even the child can't tolerate. The same kind of thing, with a little help, will happen to Mary—only it will happen when she is maybe ten or eleven years old, instead of seven. The teacher of slow-learners will keep this in mind and watch for signs of readiness in the child. When Mary begins to sense that certain colors do not fit together, she will be ready to appreciate very simple color harmonies and the kind of contrast that is truly artistic. Her teacher will then try to develop the kind of art appreciation in Mary that will make her conscious as an adult of the kinds of carpet, curtains and cushions that can "live together" in a room.

As the children grow older, art should take on broader meaning, related to experiences at home, at school and in the community. In the secondary programs, emphasis should be placed on understandings that will strengthen the preparation of the slow learner for adequate adult living. This should be accomplished through building an awareness of basic principles of art—color, line, harmony, and so forth—as they relate to choices and arrangements of home furnishings, selection and use of clothes and accessories, and as thety affect people's feelings and inter-actions with each other.[16]

The teacher of slow-learning children watches for readiness in a child, stimulates growing proficiency in the things that the child is able to do. She guides him into satisfying achievement and points him to the kind of adult proficiencies that will make it possible for him to have a feeling of pride in accomplishment.

The teacher of these boys and girls will have her rewarding moments, too. While her children are struggling with the things they need to learn, while they daub with paint and mold with clay, she is sculpturing personalities. The end results of her work will not be apparent immediately, but some day, some year, some time she can look at her achievements with her children and know how the child feels when his clay horse is put in the display case. A newspaper picture, a telephone call, or a chance meeting on the street with a tall, good-looking young man who precedes his account of his present activities with, "Remember me?" may be the thing which gives the teacher a feeling akin to that which comes to the architect when he looks upon a finished building that rose from plans on his drawing board.

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[16] Teachers can find helpful suggestions in the handbook, **Making Art Practical for the Slow Learner,** available from the Division of Special Education.

REFERENCE LIST

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Appendix A

STATE BOARD OF EDUCATION STANDARDS FOR UNITS FOR SLOW LEARNING CHILDREN

STATE BOARD OF EDUCATION STANDARDS FOR UNITS FOR SLOW LEARNING CHILDREN

Adopted April, 1960, Revised July, 1962

8.0 Units for Slow Learning Children

8.1 General

8.11 A special education unit or fractional unit may be approved for slow learning children only within these standards.

8.12 A special education unit or fractional unit may be approved for an experimental or research unit designed to provide a new or different approach to educational techniques and/or methodology related to slow learning children.

8.13 All children enrolled in an approved special education unit for slow learning children shall meet the standards listed herein.

8.14 A work experience coordinator, who works full time with administrators, school staffs, parents, pupils and the business community on problems relating to the job training and adjustment of senior high school slow learners may be considered for approval as a full unit. Part-time work coordinators may be considered for approval as fractional units.

8.141 Approval of such units shall be based upon an outline of program, submitted annually.

8.142 Two or more districts or high schools may share an approved unit for work experience coordination.

8.15 A special education unit for supervision of a program for slow learners may be approved when there are 30 or more approved units in a district.

8.151 Two or more districts may share an approved unit for supervision.

8.2 Eligibility

8.21 Children shall be in the general intelligence range of 50 through the middle 70's. They must also be of legal school age in the district operating the class, and must have sufficient maturity to permit adjustment to general school routines.

8.22 Intelligence level is determined through an individual examination by a qualified psychologist. Preference is given to the Binet scale as a base test, especially for children of elementary school age. It is expected that the psychologist will use supplementary measures whenever need for these is indicated.

8.23 A copy of the psychological report shall be made available to the classroom teacher.

8.24 In areas or school districts where school psychological service is not available, provisional admission to the class may be made on the basis of two or more recent group tests showing close agreement. Children so placed shall not score higher than 79 on either group test and should be given an individual appraisal within two years of placement in the special class.

8.25 Children placed in slow learning classes shall be re-examined periodically. Initial test results which are more than three years old shall not be used for continued placement.

8.251 Pupils who exhibit noticeable difficulty in behavioral adjustment and/or instructional progress in the special class(es) shall be given more frequent and more detailed re-evaluation. In such instances an attempt should be made to secure medical evaluation, also.

8.26 Slow learning crippled children, or slow learning children with serious visual or hearing handicaps who reside in school districts where classes for children with both defects are not available but where regular slow learning classes do exist, may be enrolled in such slow learning classes if:

8.261 they have been adjudged slow learning on the basis of an individual psychological examination.

8.262 they are referred as crippled, partially seeing or partially hearing by the proper medical authority.

8.263 they can get to school, either on the school bus or through other transportation as may be provided for physically handicapped children.

8.264 they are sufficiently ambulatory, in the case of crippled children, to care for their own physical needs in a regular school situation.

8.265 they fit the age range of the class or classes in operation and if the enrollment in such class(es) is sufficiently low that a physically handicapped child can be accommodated.

8.3 Assignment of Pupils

8.31 The superintendent of schools legally assigns an eligible pupil to the slow-learning class(es) within his district. He may delegate this responsibility to a professional staff member, other than the special class teacher, who follows through on placement in and transfer from the special class(es).

8.4 Class Size

8.41 Minimal class size for a slow learning unit shall be **twelve** children.

8.42 Maximum class size is dependent upon two factors: whether this is an elementary or secondary unit, and whether age ranges within the class are wide or narrow.

8.421 An elementary unit, three or four years age range, shall not exceed an enrollment of 16 pupils.

8.422 An elementary unit, one or two year age range, shall not exceed an enrollment of 20 pupils.

8.423 A secondary unit, three or four year age range, shall not exceed an enrollment of 20 pupils.

8.424 A secondary unit, one or two year age range, shall not exceed an enrollment of 24 pupils.

8.43 Maximum class size shall be adjusted downward for individual units at any age level where pupils with multiple handicaps are enrolled.

8.5 Age Range

8.51 There shall not be a spread of more than four calendar years between the oldest and youngest pupil in a unit.

8.6 Housing

8.61 Classes shall be located in school buildings with other boys and girls of comparable age. With the exception of units which were in existence prior to 1945, classes housed in separate buildings will not be approved.

8.62 An elementary class shall have a room comparable in size, location and desirability to regular classrooms provided for full class groups.

8.63 A standard size classroom shall be made available to each secondary class. This room is to be used for classroom instruction and as a resource room where books and materials used by the special class pupils are kept.

8.7 Organization

8.71 There should be programs for at least two age ranges if slow learning children are to be served effectively. A minimum program would then provide for younger children (elementary—pre-adolescents) in one unit and for older pupils (secondary—adolescents) in the second. In the more populous districts organization will evolve in terms of three or four age ranges (primary, upper elementary, junior high, senior high) to more closely approximate grade groupings in standard school programs.

8.711 Two or more school districts may combine resources in order to provide adequate facilities for all slow learning pupils in the cooperating districts.

8.72 Program organization shall be essentially the same as for other pupils of the same age in the same building. This applies to such matters as length of the school day, amount of participation in general school activities, grouping of boys and girls in the same classroom, and general home room assignments at the secondary level.

8.721 In the elementary school the unit is primarily self-contained.

8.722 In the secondary school the size of the school and the number of slow learning units will determine specific organization within the building.

8.7221 In schools where several special teachers work in a departmentalized manner, each teacher shall have the equivalent of one special unit as a **full time** assignment.

8.7222 In schools where one special teacher carries full responsibility, this teacher shall have one class group only. While not all pupils at this age level remain with the special class teacher all day, the teacher's responsibility is a full time one. No unit shall be approved where two groups of children are assigned to one teacher for half-day programs.

8.73 Teaching organization shall resemble that for other groups in the same building as closely as possible.

8.731 In the elementary programs, the special teacher works with the children full time.

8.732 In the secondary programs all academic work, personal and occupational guidance shall be carried on in the special unit(s) by the special class teacher(s). In addition, the special teacher(s) have responsibility where pupils participate in portions of the regular program for coordination of the total instructional program for these boys and girls.

8.7321 The academic program of an approved unit in high school must include the minimum requirements towards graduation as established by the Ohio High School Standards.

8.7322 Work experience programs in the senior high schools should be a part of the total curriculum offering for these students.

8.7323 Depending upon the capabilities of individuals in the special classes and upon available facilities within the secondary school, slow learners should participate with the general student body in selected non-academic courses. Among these are: physical education, art, music, home economics, shop, beginning typing, driver education.

8.8 Curriculum

8.81 The instructional program for all age levels shall be appropriate to the needs and capabilities of slow learning pupils.

8.811 In their daily program planning, teachers shall use curriculum guides and/or outlines prepared for teaching slow learners.

8.9 Equipment and Materials

8.91 Equipment and materials shall at all times fit the maturity and interest levels of the children.

8.10 Teacher Qualifications

8.101 A teacher shall meet all the requirements for certification as set by the State Board of Education for this area of specialization.

Appendix B

CERTIFICATION STANDARDS FOR TEACHERS OF SLOW LEARNING CHILDREN

STATE BOARD OF EDUCATION CERTIFICATION STANDARDS

Adopted December, 1961

Teachers of Slow Learning Children

A. An applicant for the provisional special certificate to teach slow learning children, who does not qualify for a provisional elementary or secondary teaching certificate, shall submit evidence of a degree from an institution approved to train teachers of slow learning children including evidence of the following preparation:

(1)	Child Growth and Development	2 sem. hrs.
(2)	Psychology or Education of Exceptional Children	2 sem. hrs.
(3)	Education or Psychology of Slow Learning Children	2 sem. hrs.
(4)	Principles and Practices in Curriculum Planning and Program Development including one course in Language Arts (including Reading), Arithmetic, and Social Studies for Slow Learning Children	6 sem. hrs.
(5)	Preparation, Selection and Adaptation of Instructional Materials for Slow Learners	2 sem. hrs.
(6)	Occupational Orientation and Job Training	2 sem. hrs.
(7)	Observation and Student Teaching, at least half of which shall be in classes for slow learning children	8 sem. hrs.

B. An applicant for the provisional special certificate to teach slow learning children, who holds an elementary or secondary certificate, shall submit evidence of the following preparation:

(1)	Psychology or Education of Exceptional Children	2 sem. hrs.
(2)	Education or Psychology of Slow Learning Children	2 sem. hrs.
(3)	Principles and Practices in Curriculum Planning and Program Development including one course in Language Arts (including Reading), Arithmetic, and Social Studies for Slow Learning Children	6 sem. hrs.
(4)	Occupational Orientation and Job Training	2 sem. hrs.
(5)	Observation and Student Teaching in Classes for Slow Learning Children*	6 sem. hrs.

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* May be waived upon the completion of eighteen (18) months of successful teaching experience in classes for slow learning children.